

铁线莲属绣球藤组修订

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A revision of *Clematis* sect. *Cheiropsis* (Ranunculaceae)

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Abstract In the present revision of the sect. *Cheiropsis* are recognized 22 species and 23 varieties, which are keyed, described, and illustrated, and the classification of this section proposed by Wang (2000b) is followed with no change. The brief taxonomic history, the evolutionary trends of the important morphological characters, and the geographical distribution of the section are given. The phenomenon that the pedunculate, bibracteate cyme is reduced to a single only pedicellate flower in the *Clematis* is discussed, and five modes of origin of the only pedicellate flower are discerned.

Key words *Clematis*; Sect. *Cheiropsis*; Taxonomical revision; Only pedicellate flower

摘要 笔者在中国科学院植物研究所标本馆和欧、美一些著名植物标本馆研究了铁线莲属植物标本之后,完成了此属绣球藤组的修订,确定此组含有 22 种和 23 变种。本文还提供了组下分类群的检索表、各种植物的形态描述、地理分布、生长环境等,并附有多幅插图。笔者曾在 2000 年根据此组的重要形态特征的演化趋势制定出一个新分类系统,此系统在本修订中继续得到应用。此组重要形态特征的演化趋势的原始状态是:萼片平展,呈倒卵形,顶端圆形或钝,外面边缘无狭短绒毛带;雄蕊花药呈长圆形或狭长圆形,药隔顶端不突出;花组成具花序梗和 2 枚分生苞片的聚伞花序,生于当年生枝叶腋。衍生状态是:萼片斜上展或近直立,变狭呈长圆形、长椭圆形、披针形或倒披针形,顶端急尖、渐尖或渐狭,外面边缘出现狭短绒毛带(仅文山铁线莲一种);雄蕊花药呈条形,药隔顶端有小突起;花组成具花序梗和 2 苞片合生形成总苞的聚伞花序,或花单生,只具花梗,而无花序梗和苞片,自老枝的腋芽中生出。在铁线莲属近 300 种植物中,具有上述原始特征的只有 6 种:短梗铁线莲 *C. brevipes*、美花铁线莲 *C. potaninii*、绣球藤 *C. montana*、薄叶铁线莲 *C. gracilifolia*、丽叶铁线莲 *C. venusta* 和金毛铁线莲 *C. chrysocoma*。这 6 种中有 5 种特产我国西南部横断山区一带,只 1 种(绣球藤)分布较广,东自我国台湾省向西经过我国亚热带山区分布到喜马拉雅西部。此外,简要回顾了本组的分类历史,绘出本组分布区图,以及讨论了铁线莲属中具花序梗和二苞片的聚伞花序在此属各演化路线中出现的简化成仅具花梗单花的现象。

关键词 铁线莲属;绣球藤组;分类学修订;仅具花梗的花

The sect. *Cheiropsis* was founded by de Candolle (1818), consisting of *C. cirrhosa* L., *C. semitriloba* Lag., *C. balearica* Rich., *C. napaulensis* DC., and *C. montana* Buch.-Ham. ex DC. In his classification of the *Clematis*, Prantl (1888) incorrectly transferred *C. montana* to sect. *Flammula* subsect. *Rectae* there with such unrelated species as *C. apiifolia* DC., *C. songarica* Bunge, *C. chinensis* Osb., *C. flammula* L. etc. Prantl's above treatment was followed by Schneider (1906), who established a subsection for *C. montana* under sect. *Flammula*, and by

Rehder & Wilson (1913). Rehder & Wilson (1913) placed *C. fargesii* Franch. (= *C. potaninii* Maxim.) in sect. *Flammula* ser. *Vitalbae* together with such unrelated species as *C. apiifolia* DC., *C. grata* Wall., *C. gouriana* Roxb. ex DC., and *C. brevicaudata* DC., and this treatment was followed by Johnson (1997) and Grey-Wilson (2000) in their recent revisions of the *Clematis*. In his revision of the Chinese *Clematis*, Handel-Mazzetti (1939) followed Schneider to place the subsect. *Montanae* under sect. *Flammula*, but for the first time put *C. montana* with its allies *C. gracilifolia*, *C. acerifolia*, *C. brevipes*, *C. potaninii*, *C. chrysocoma*, *C. williamsii*, *C. fasciculiflora* and *C. napaulensis* together into the same group. So, the main content of the sect. *Cheirosopsis* was for the first time ascertained by him, though these species were included in subsect. *Montanae* under sect. *Flammula* instead of sect. *Cheirosopsis*. This content was adopted by Tamura (1956, 1967, 1995), Chang (1980), and Wang (2000b) in their treatments of the sect. *Cheirosopsis*. Based on the sepals of *C. heynei* lacking a narrow strip of velutinous indumentum on the margin of the abaxial surface, this species was considered to be a member of the sect. *Cheirosopsis* by Wang (2000a). In 2000, I (Wang, 2000b) proposed a classification for the sect. *Cheirosopsis*, and in this paper it is adopted with no change.

In the first half of the nineteenth century, two English botanists successively noticed the same phenomenon that the flowers of *Clematis montana* resemble those of *Anemone sylvestris*. In the protologue, Don (1825) gave the interpretation about the meaning of the specific epithet of his new species, *Clematis anemoniflora* D. Don (= *C. montana*) as follows: 'Flores patuli, albi, fere *Anemonis sylvestris*'. Just as Don did, Loudon (1842) also provided similar interpretation for the name of his new section, § *Anemoniflora*, founded on the basis of *C. montana*: 'Derivation. From the flowers being like those of the *Anemone sylvestris*'. In fact, among the some three hundred species of the *Clematis* (Johnson, 1997, Grey-Wilson, 2000) there are only six species, i. e. *C. brevipes*, *C. potaninii*, *C. montana*, *C. gracilifolia*, *C. chrysocoma*, and *C. venusta* with flowers similar to those of the genus *Anemone*, which is a close ally of *Clematis*, and more primitive than it. In these species just mentioned, the flowers are bisexual, the sepals are petaloid, spreading, membranous in texture, obovate in outline, at apex rounded, adaxially glabrous, abaxially appressed-puberulous, without narrow velutinous margins, and the stamens are glabrous with oblong or narrowly oblong anthers (only in some varieties of *C. montana* and *C. venusta*, the anthers are sometimes linear in outline) (Wang, 2000b). Possessing such a syndrome of primitive features, these six species might be the early descendants of the extinct primitive group of the *Clematis* (Wang, 1998), and possessing such archaic species, the sect. *Cheirosopsis* may be the extant primitive group of that genus.

The morphology of the sepals and stamen anthers of the six species mentioned above may represent the primitive phase of the evolutionary trends of the section. On the other hand, the following floral morphological characters such as the ascending or nearly erect, narrowed, obovat-oblong, long elliptic, lanceolate, or oblanceolate sepals with acute, acuminate, or attenuate apices and narrow strips of velutinous indumentum on the margin of the abaxial surface (*C. wenshanensis*), the linear anther without or with projected connective (*C. heynei*, *C. montana* var. *grandiflora* etc.) may represent advanced phase.

In the genus *Clematis*, flowers are usually arranged in pedunculate, bibracteate cymes arising from leaf axils or apexes of hornotinous branch. However, in most species of sect. *Cheirosopsis*, the flowers are either solitary, only pedicellate (*C. montana* etc.) or in pedunculate, bibracteate (*C.*

williamsii) or involucrate (*C. cirrhosa*), 1-flowered cymes arising alone or with leaves from axillary buds of old branch. These phenomena are considered to be 'secondary and an adaptation to the temperate climate'. (Tamura, 1967). In subsect. *Cirrhosae*, the two bracts of the cyme are usually connate into a campanulate structure, and this phenomenon is regarded as an advanced state.

The phenomenon that the pedunculate, bibracteate cyme is reduced to a single only pedicellate flower occurs in several diverse evolutionary lines of the *Clematis*, such as in subsect. *Acerifoliae* (*C. acerifolia*), subsect. *Montanae* (*C. montana*, *C. khasiana* etc.), and subsect. *Fasciculiflorae* (*C. fasciculiflora*) of sect. *Cheiropsis*, in sect. *Fruticella* [*C. viridis* (W. T. Wang & M. C. Chang) W. T. Wang], in subsect. *Orientalis* of sect. *Meclatis* [*C. tangutica* (Maxim.) Korsh.], in sect. *Viticella* (*C. patens* Morr. & Decne.), in ser. *Pogonandrae* (*C. pogonandra* Maxim. etc.) and subsect. *Bebaenanthera* (*C. barbellata* Edgew., *C. pseudopogonandra* Finet & Gagnep. etc.) of sect. *Viorna*, in sect. *Atragene* [*C. alpina* (L.) Mil., *C. macropetala* Ledeb. etc.], and in sect. *Pseudanemone* (*C. africolineariloba* W. T. Wang etc.). The modes of the origin of the only pedicellate flower in the genus *Clematis* may be discerned as follows: (a) Two only pedicellate flowers alone or with leaves arise from an axillary bud of an uppermost leaf of the stem as in *C. acerifolia*; (b) The only pedicellate flowers with leaves together arise from an axillary bud of old branch as in *C. montana*, *C. barbellata*, *C. alpina* etc.; (c) The only pedicellate flowers singularly or in pair arise from the leaf axils of horotinous branch as in *C. khasiana*, *C. pogonandra* etc.; (d) The only pedicellate flowers singularly arise from apexes of the axillary short or strongly abbreviated branchlets as in *C. viridis*; and (e) A single pedicellate flower is terminal to stem or hornotinous branch as in *C. tangutica*, *C. patens*, *C. africolineariloba* etc.

Fig. 1

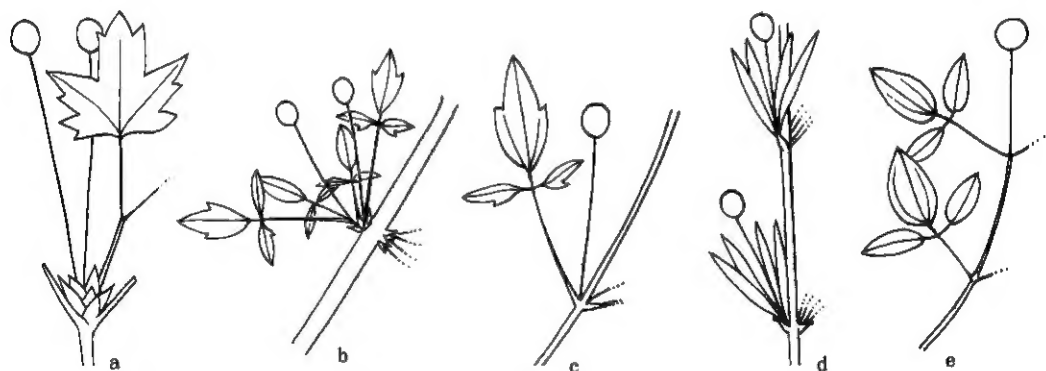


Fig. 1 Diagrams showing the five modes about the origin of the only pedicellate flowers in the genus *Clematis* (for explanation see text)

According to the evolutionary trends mentioned above, in the sect. *Cheiropsis*, subsect. *Potaniniana* with spreading, obovate sepals, oblong or narrowly oblong anthers, and cymes arising from leaf axils of hornotinous branch may be regarded as its primitive group. Subsect. *Heyniana* is somewhat remote from other subsections in its often many-flowered cymes and linear anther with projected connectives. In habit and morphology of stamens and fruits subsect. *Williamsiana* is similar to subsect. *Montanae*. However, it is difficult to explain the occurrence of the curious imbricate aestivation of the sepals. Thus, for understanding of the relationship and systemtic position of the two subsections just mentioned further study is needed.

In the present revision of the sect. *Cheiropsis*, 22 species and 23 varieties are recognized. Of

them most are wide-spread in the subtropical montane regions of China and the Himalayas, and only three species are scattered in Beijing of North China (*C. acerifolia*), Southern Japan (*C. williamsii*) (Tobe, 1980), and central India (*C. heynei*) in Asia and one (*C. cirrhosa*) of the two species of subsect. *Cirrhosae* disjunctively occurs in the coastal regions of southwestern Asia, southern Europe, and northern Africa (Fig. 2). Of the six archaic species mentioned above, five are concentrated in the Hengduan Mountains and adjacent regions of Southwest China, and one (*C. montana*) ranges widely from the Taiwan Island of China westwards through the subtropical regions of China to the western Himalayas. Owing to the archaic age of these species, the distribution area of them may be significant for searching the centre of origin of the genus *Clematis*.

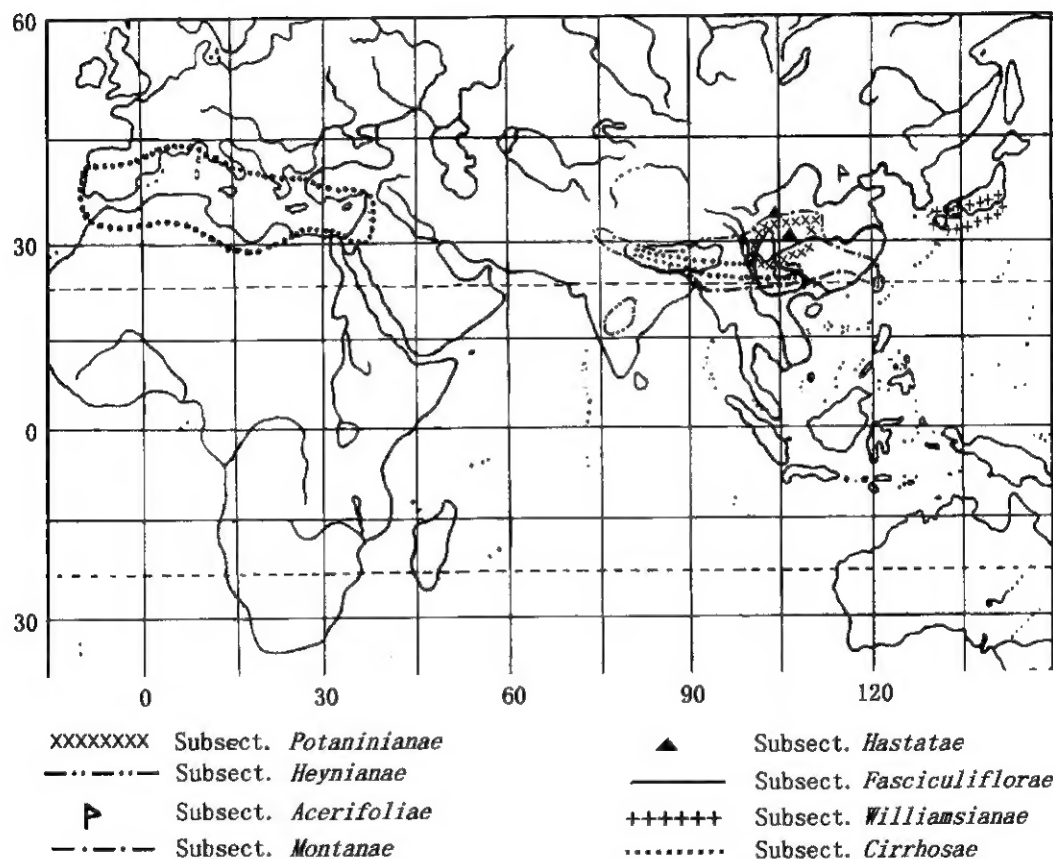


Fig. 2 Map showing the distribution of the eight subsections of the sect. *Cheiropsis*

***Clematis* L. sect. *Cheiropsis* DC. Syst. 1: 162. 1818; et Prodr. 1: 9. 1824; Maxim. in Bull. Acad. Sci. St. Petersburg. 22: 222. 1877; Tamura in Sci. Rep. Osaka Univ. 4: 51. 1955; in Acta Phytotax. Geobot. 16: 80. 1956; in Sci. Rep. Osaka Univ. 16(2): 34. 1967; M. C. Chang in Fl. Reip. Pop. Sin. 28: 212. 1980; Tamura in Acta Phytotax. Geobot. 38: 41. 1987; et in Heipko, Englers Nat. Pflanzenfam., ed. 2, 17a (4): 379. 1995; M. Johnson, *Clematis* 365. 1997; W. T. Wang in Acta Phytotax. Sin. 38(6): 497. 2000. — *Cheiropsis* (DC.) Spach, Hist. Nat. Veg. Phan. 7: 260. 1839. — *Clematis* subgen. *Cheiropsis* (DC.) Peterm. Deut. Fl. 3. 1846; Grey-Wils. *Clematis* 75. 2000. Lectotype: *C. cirrhosa* L. (Tamura, 1955).**

Sect. *Flammula* DC. subsect. *Montanae* sensu Hand.-Mazz. in Acta Hort. Gotob. 13: 210. 1939, non Schneid.

Woody vines, seldom small erect shrubs. Seedling leaves alternate (known only in *C. montana*, *C. chrysocoma*, *C. napaulensis*, and *C. cirrhosa* — Essig, 1991). Cauline leaves opposite, once or twice ternate or pinnate, rarely simple. Flowers bisexual, medium-sized, rarely large or small, in 1 ~ 3 (-many)-flowered, pedunculate, 2-bracteate cymes or pedicellate only, arising from leaf axils of hornotinous branch, or often alone or together with several leaves from an axillary bud of old branch. Sepals 4 (~ 5 ~ 8), petaloid, spreading, ascending, or nearly erect, white, rarely pink or purple, obovate, oblong, elliptic, lanceolate, or oblanceolate, inside glabrous, seldom puberulous, outside puberulous or velutinous, seldom glabrous, on the very margin puberulous or glabrous, seldom velutinous (*C. wenshanensis*). Stamens glabrous; filaments linear; anthers usually narrow-oblong, sometimes oblong or linear, at apex obtuse, seldom minutely apiculate. Achenes compressed, not or rarely rimmed at margin; persistent styles plumose.

22 species, in Asia, S Europe, N Africa.

Key to infrasectional taxa

1. Sepals spreading, valvate.
 2. Flowers in pedunculate, 2-bracteate 1-3-flowered cymes arising from leaf axils of hornotinous branch; woody vines.
 3. Leaves once or twice pinnate; sepals obovate, 4 or 5 ~ 7; cymes 1 ~ 3-flowered; anthers oblong or narrow-oblong, at apex obtuse (Subsect. 1. **Potantinianae**).
 4. Leaves pinnate; cymes 1-flowered; sepals 4; ovaries pubescent 1. *C. brevipes*
 4. Leaves bipinnate; cymes 1 ~ 3-flowered; sepals 5 ~ 7; ovaries glabrous 2. *C. potaninii*
 3. Leaves ternate; sepals oblanceolate, 4; cymes 3-many-flowered; anthers linear, at apex minutely apiculate (Subsect. 2. **Heynianae**) 3. *C. heynei*
 2. Flowers only pedicellate, 1 to several alone or with several leaves arising from an axillary bud of old branch, or rarely singularly or in pair from leaf axils of hornotinous branch.
 5. Small erect shrubs; leaves simple, palmately 5-lobed; sepals 5 ~ 8, narrowly obovate, glabrous (Subsect. **Acerifoliae**) 4. *C. acerifolia*
 5. Woody vines; leaves ternate, rarely pinnate; sepals 4 (~ 6 ~ 8), at least outside hairy.
 6. Leaves more or less hairy, ternate, rarely pinnate; leaflets at margin usually dentate, seldom entire; sepals 4 (Subsect. 4. **Montanae**).
 7. Sepals obovate or broadly or narrowly obovate, at apex rounded or obtuse (Ser. 1. **Montanae**).
 8. Leaves ternate.
 9. Central leaflets 3-lobed or undivided.
 10. Leaflets whitish-puberulous; persistent styles whitish-plumose, only in *C. montana* var. *glabrescens* slightly fulvous-plumose; sepals 4.
 11. Leaflets ovate, narrow-ovate, or elliptic, seldom lanceolate, at margin dentate or denticulate, seldom entire; achenes broadly rhombic, broadly obovate or ovate, persistent styles 2 ~ 7 cm long 5. *C. montana*
 12. Sepals outside appressed-puberulous; pedicels up to 5 ~ 13 cm long.
 13. Ovaries and achenes glabrous.
 14. Achenes broadly rhombic or broadly obovate, at apex acute; anthers narrow-oblong, up to 3 mm long.
 15. Leaflets ovate or elliptic, 2 ~ 7 cm × 1 ~ 5 cm, at margin dentate, often 2 ~ 3-lobed, sometimes undivided; flowers 3 ~ 5 cm in diam.; pedicels 3 ~ 12 cm long; persistent styles 2.5 ~ 4 cm long 5a. var. *montana*

15. Leaflets smaller, elliptic, long elliptic, narrow-ovate, or lanceolate, 1~4 (~5) cm × 0.5 cm ~ 2 cm, at margin on each side 1 (~2)-dentate or entire, undivided; flowers smaller, 1.5~4 cm in diam.; pedicels 1~4 cm long; persistent styles up to 2 cm long 5b. var. **sterilis**
14. Achenes ovate, at apex attenuate; anthers narrow-oblong or linear, 3~5.5 mm long.
16. Leaflets narrow-ovate or broadly lanceolate, 3.2~4.5 cm × 1~2 cm, at margin denticulate or entire, undivided; flowers 3.6~5.5 cm in diam.; pedicels 5~9.5 cm long; anthers narrow-oblong or linear, 3~4 mm long 5c. var. **angustifolia**
16. Leaflets larger, ovate or narrow-ovate, 5.5~7 cm × 2~3 cm, at margin dentate, usually undivided; flowers larger, 6~9 cm in diam.; pedicels 7.5~13 cm long; anthers linear, 4.5~5.5 mm long 5d. var. **grandiflora**
13. Ovaries and achenes puberulous.
17. Flowers developing after leaves, 1.8~4.5 cm in diam. 5e. var. **brevifolia**
17. Flowers developing before leaves, 1.6~3 cm in diam. 5f. var. **praecox**
12. Sepals outside along margin velutinous; pedicels usually longer, up to 18~24 cm long.
18. Sepals rose-pink, outside along margin thinly velutinous; pedicels 6.5~11 cm long; ovaries glabrous 5g. var. **rubens**
18. Sepals white, outside along margin very densely velutinous; pedicels up to 18~24 cm long.
19. Ovaries and achenes glabrous; persistent styles whitish-plumose.
20. Sepals obovate, at apex not emarginate.
21. Sepals at apex often mucronate (mucro ca. 1 mm long), without tail-like projection ... 5h. var. **longipes**
21. Sepals at apex each with a tail-like projection 5~10 mm long 5i. var. **urosepala**
20. Sepals narrow-obovate, at apex usually emarginate 5j. var. **wilsonii**
19. Ovaries and achenes puberulous; persistent styles slightly fulvous-plumose 5k. var. **glabrescens**
11. Leaflets lanceolate, at margin entire; achenes narrow-ovate, glabrous, persistent styles ca. 1 cm long 7. **C. venusta**
10. Leaflets yellowish-strigose; persistent styles fulvous-plumose; sepals 4 (~5~8); ovaries and achenes hairy 8. **C. chrysocoma**
9. Central leaflets 3-parted.
22. Leaflets adaxially puberulous; flowers 2~2.7 cm in diam.; sepals white, obovate-oblong, 11~15 mm × 4~6 mm 9. **C. tripartita**
22. Leaflets adaxially glabrous; flowers larger, 2.7~3.2 cm in diam.; sepals larger, purplish-red, obovate or narrow-obovate, 13~17 mm × 8~13.5 mm 10. **C. ningjingshanica**
8. Leaves pinnate, 5-foliolate, occasionally a few 3-foliolate, or sometimes nearly 2-pinnate 6. **C. gracilifolia**
23. Leaflets 2~3-lobed or undivided.
24. Ovaries and achenes glabrous.
25. Flowers 2~3.5 cm in diam.; anthers 1.6~2 mm long 6a. var. **gracilifolia**
25. Flowers 5~6.5 cm in diam.; anthers 2.8~3.2 mm long 6b. var. **macrantha**
24. Ovaries and achenes puberulous 6c. var. **lasiocarpa**
23. Leaflets 2~3-parted to 2~3-sect; ovaries and achenes glabrous 6d. var. **dissectifolia**
7. Sepals long elliptic, lanceolate, or oblanceolate, at apex acute, acuminate, or attenuate (Ser. 2. **Tongluenses**).
26. Sepals on the very margin not velutinous.
27. Sepals inside glabrous.

28. Flowers with leaves together arising from an axillary bud of old branch.
29. Leaflets long elliptic or lanceolate-oblong, at margin entire or 1 ~ 2-denticulate on each side; ovaries glabrous 11. *C. wallichii*
29. Leaflets ovate or elliptic, at margin dentate; achenes nearly glabrous 12. *C. manipurensis*
30. Branches glabrous 12a. var. *manipurensis*
30. Branches densely appressed-puberulous 12b. var. *lasioclada*
28. Flowers singularly or in pair arising from leaf axils of homotinuous branch; ovaries and achenes hairy.
31. Leaflets coriaceous or subcoriaceous, abaxially on veins sparsely puberulous; persistent styles ca. 3 cm long 13. *C. khasiana*
31. Leaflets papery, abaxially strigose; persistent styles 9 ~ 11 mm long 14. *C. laxistrigosa*
27. Sepals inside puberulous 15. *C. tongluensis*
32. Sepals outside glabrous 15a. var. *tongluensis*
32. Sepals outside densely appressed-puberulous 15b. var. *mollisepala*
26. Sepals outside on the very margin velutinous 16. *C. wenshanensis*
6. Leaves glabrous, pinnate, rarely ternate, leaflets at margin entire; branches glabrous; sepals 4 or 6, oblanceolate or obovate-oblong, at apex rounded (Subsect. 5. *Hastatae*).
33. Sepals 4 17. *C. hastata*
33. Sepals 6 18. *C. glabrifolia*
1. Sepals ascending or nearly erect, 4.
34. Flowers only pedicellate, not in bibracteate or involucre cymes, 2 ~ 4 alone or with leaves arising from an axillary bud of old branch; sepals valvate, nearly erect; achenes lanceolate, glabrescent (Subsect. 6. *Fasciculiflorae*). 19. *C. fasciculiflora*
35. Leaflets narrow-ovate or lanceolate, 0.8 ~ 3.5 (~ 5) cm broad 19a. var. *fasciculiflora*
35. Leaflets linear-lanceolate, 3 ~ 6 (~ 10) mm broad 19b. var. *angustifolia*
34. Flowers in pedunculate, bibracteate or involucre 1-flowered cymes, usually with leaves arising from axillary buds of old branch; achenes ovate or oblong-elliptic, more or less densely puberulous.
36. Cymes bibracteate; sepals imbricate, ascending, broadly ovate (Subsect. 7. *Williamsoniae*) 20. *C. williamsii*
36. Cymes involucre, rarely bibracteate; sepals valvate, nearly erect, oblong-obovate or oblong (Subsect. 8. *Cirrhosae*).
37. Leaves subcoriaceous or coriaceous, rarely papery, usually simple, undivided or 3-lobed to 3-sect, seldom ternate (*C. cirrhosa* var. *balearica*); petioles shorter, 0.5 ~ 2.4 cm long 21. *C. cirrhosa*
38. Two opposite bracts connate into a involucre with a tube and two lobes.
39. Involucre campanulate, surrounding and covering pedicel and calyx base, on top indistinctly 2-lobed; pedicel 3 ~ 5 mm long, shorter than involucre.
40. Leaves simple, usually undivided 21a. var. *cirrhosa*
40. Leaves simple, variously divided, or ternate.
41. Leaves simple, 3-lobed to 3-sect, rarely undivided, their lobes at margin few-denticulate or entire 21b. var. *semitriloba*
41. Leaves simple, 3-sect, or ternate; leaflets or segments 2 ~ 3-parted, at margin incised-dentate 21c. var. *balearica*
39. Involucre not covering the pedicel and more or less separated from the calyx base, distinctly 2-lobed; pedicel (4 ~) 16 ~ 20 mm long, slightly or much longer than involucre.
42. Leave simple, undivided or 3-lobed to 3-sect, at margin 1 ~ 2-denticulate or entire; cymes singularly arising from leaf axils of homotinuous branch; involucre 6 mm long, its lobes deltoid or ovate, 2.5 ~ 4 mm long; pedicel 4 ~ 20 mm long; anthers oblong, 1.2 mm long

- 21d. var. **pedicellata**
42. Leaves simple, undivided, at margin densely, coarsely serrate; cymes 2 with leaves arising from a terminal bud of annottinous branch; involucre larger, 15 mm long, its lobes narrow-triangular or narrow-ovate, 9 ~ 10 mm long; pedicel ca. 16 mm long; anthers narrow-oblong, 3 ~ 3.4 mm long 21e. var. **barnadesii**
38. Two opposite bracts free, spreading 21f. var. **bibracteata**
37. Leaves herbaceous, ternate with undivided leaflets, seldom simple; petioles 3 ~ 7.5 cm long; cymes 1 ~ 3 with leaves arising from an axillary bud of old branch, with campanulate involucres 22. **C. napaulensis**

Subsect. 1. **Potaninianae** W. T. Wang in Acta Phytotax. Sin. 36(2):162. 1998, sphalm. *Potaninae*, et 38(5): 401. et (6): 499. 2000. —Sect. *Clematis* subsect. *Potaninianae* M. Johnson, Klematis 410, 451. 1997, p. p. excl. *C. trichotoma* Nakai; Grey-Wils. Clematis 45. 2000, p. p. excl. *C. trichotoma* Nakai. TYPE: *C. potaninii* Maxim.

Woody vines. Leaves once or twice pinnate. Flowers in pedunculate, 2-bracteate, 1 ~ 3-flowered cymes arising from leaf axils of hornottinous branch. Sepals 4 ~ 7, valvate, spreading, obovate or narrow-obovate, at apex rounded. Anthers oblong or narrow-oblong, at apex obtuse.

2 species, endemic to SW China.

1 短梗铁线莲 Fig. 3: 4 ~ 5

Clematis brevipes Rehd. in J. Arn. Arb. 9: 39. 1828; Hand.-Mazz. in Acta Hort. Gotob. 13: 190. 1939; M. Johnson, Klematis 387. 1997; Grey-Wils. Clematis 79. 2000. TYPE: China. Gansu (甘肃), Between Kaichow and Minchow, 1925-04, Rock 12075 (holotype, GH!; isotypes, K!, P!, S!).

Woody vine. Branches very shallowly 4-sulcate, glabrous or only on nodes sparsely puberulous; branchlets densely puberulous. Leaves pinnate, 5-foliolate; leaflets papery, broad-ovate or broad-rhombic, 1.5 ~ 4 cm × 0.7 ~ 3 cm, at apex acute, at base subtruncate or broadly cuneate, 3-lobed to 3-parted, central lobe subrhombic, at margin on each side 1-dentate, lateral lobes obliquely cuneate, unequally 2-lobulate or undivided, adaxially on slightly impressed veins sparsely puberulous, abaxially on veins pubescent, basal veins nearly flat; petioles 3.6 ~ 5 cm long, puberulous. Cymes axillary, 1-flowered; peduncles 2.5 ~ 6 mm long, puberulous; bracts narrow-lanceolate, 2 ~ 4 mm long, puberulous. Flower ca. 3 cm in diam.; pedicel 0.6 ~ 1.5 cm long, puberulous. Sepals 4, white, broad-obovate, orbicular-rhombic, or broad-elliptic, 1.2 ~ 1.8 cm × 1 ~ 1.5 cm, at apex rounded, inside glabrous, outside appressed-puberulous. Stamens 8 ~ 10 mm long, glabrous; anthers oblong or narrow-oblong, 1.6 ~ 2 mm long, at apex obtuse. Ovaries pubescent; styles ca. 8 mm long, densely villous. Fl. Apr.

China (S Gansu). Only known from the type specimens.

2 美花铁线莲 Fig. 3: 1 ~ 3

Clematis potaninii Maxim. in Acta Hort. Petrop. 11: 9. 1890; Diels in Bot. Jahrb. 29: 333. 1900; Rehd. in J. Arn. Arb. 4: 187. 1923; Hand.-Mazz. in Acta Hort. Gotob. 13: 210. 1939; Iconogr. Corm. Sin. 1: 750, fig. 1500. 1972; Fl. Tsinling. 1(2): 296. 1974; M. C. Chang in Fl. Reip. Pop. Sin. 28: 226, pl. 75. 1980; C. Y. Wu, Ind. Fl. Yunnan. 1: 112. 1984; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 530. 1993; M. Johnson, Klematis 451. 1997; Grey-Wils. Clematis 45. 2000; W. T. Wang in Acta Phytotax. Sin. 38 (5): 402. 2000; in Fl. Yunnan. 11: 234. 2000. — *C. montana* DC. var. *potaninii* (Maxim.) Finet &

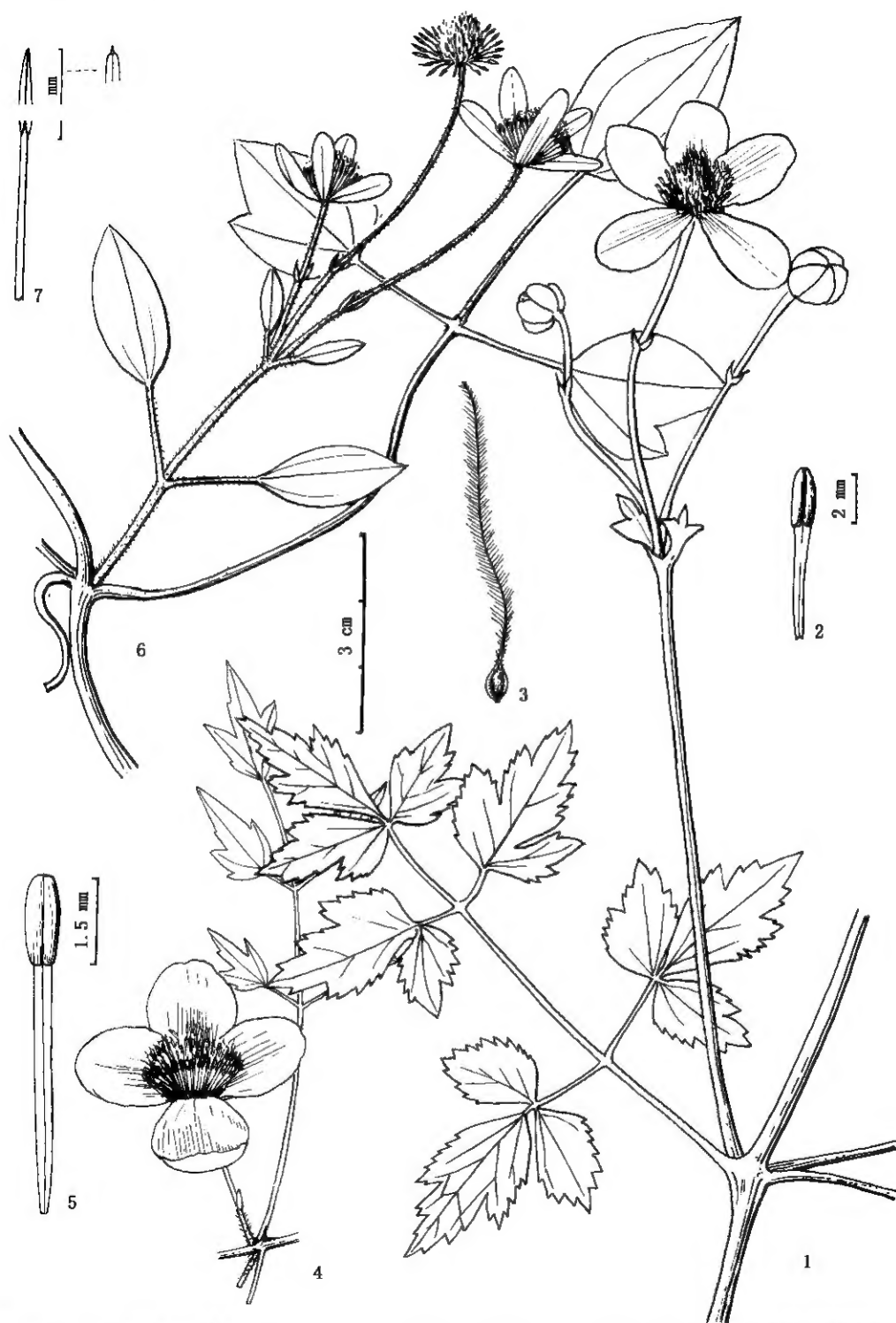


Fig. 3 1~3. *Clematis potaninii* Maxim. 1. Flowering branch; 2. Stamen (from Sichuan Exped. 8231); Achene (from X. Li 72435). 4, 5. *C. brevipes* Rehd. 4. Flowering branch; 5. Stamen (from Rock 12075). 6, 7. *C. heynei* Rau 6. Flowering branch; 7. Stamen. (from Hamdri 104271)

Gagnep. in Bull. Soc. Bot. France 50: 525. 1903. TYPE: China. Gansu (甘肃), Monte I-tschu-Schan, 1885-07-15, Potanin s. n. (lectotype, LE!, designated here; isolectotype, PE!); inter pagos Morping et Wuping, 1885-07-04, Potanin s. n. (syntype, LE!). Sichuan (四川), valle Heiho, 1885-07-24, Potanin s. n. (syntype, LE!).

C. fargesii Franch. in J. de Bot. 8: 273. 1894; Finet & Gagnep. in l. c.; Rehd. & Wils. in Sarg. Pl. Wils. 1: 335. 1913; Hand.-Mazz. Symb. Sin. 7: 321. 1931; Rehd. Man. Cult. Tr. & Shr., ed. 2, 217. 1940. — *C. potaninii* var. *fargesii* (Franch.) Hand.-Mazz. in Acta Hort. Gotob. 13: 211. 1939; M. Johnson, Klematis 452. 1997. — *C. potaninii* ssp. *fargesii* (Franch.) Grey-Wils. Clematis 46. 2000. TYPE: China. Sichuan (四川), Chengkou (城口), 1400 m, Farges 477 (holotype, P!; isotype, GH!).

C. fargesii var. *souliei* Finet & Gagnep. in Bull. Soc. Bot. France 50: 523. 1903; Rehd. & Wils. in Sarg. Pl. Wils. 1: 336. 1913; Hutch. in Curtis, Bot. Mag. 143: t. 8702. 1917. — *C. souliei* Finet & Gagnep. in l. c., pro syn. TYPE: China. Sichuan (四川), Kangding (康定), Soulie s. n. (syntype, P!), Pratt 520 (syntype, P!; isosyntype, K!).

Woody vine. Branches shallowly 5 ~ 6-sulcate, appressed-puberulous. Leaves usually twice, sometimes once pinnate; leaflets thin-papery, ovate or broad-ovate, 1.5 ~ 6 cm × 0.8 ~ 5.5 cm, at apex acute or acuminate, at base broadly cuneate, rounded, or subcordate, at margin serrate, on both surfaces sparsely appressed-puberulous, basal veins flat; petioles 3 ~ 5 cm long. Cymes axillary, 1 ~ 3 (~ 4)-flowered; peduncles 5.5 ~ 15 cm long; bracts ternate or simple, 3-lobed. Flower 3 ~ 7 cm in diam.; pedicel 3 ~ 9.8 cm long, appressed-puberulous. Sepals 5 ~ 6 (~ 7), white, cuneate-obovate or narrow-obovate, 1.8 ~ 3.8 cm × 0.8 ~ 2.4 cm, at apex rounded, often mucronate, inside glabrous, outside densely appressed-puberulous. Stamens 7 ~ 18 mm long, glabrous; anthers narrow-oblong, 2 ~ 3 mm long, at apex obtuse. Ovaries glabrous; styles 7 ~ 11 mm long, densely villous. Achenes strongly compressed, obovate or broadly rhombic, 3 ~ 4.5 mm × 2 ~ 2.8 mm, glabrous; persistent styles 2.5 ~ 3.2 cm long, plumose. Fl. Jun. – Aug.

China (S Gansu, S Shaanxi, N & W Sichuan, E Xizang, NW Yunnan). On slopes, at forest margins, or in forests; 1400 ~ 4000 m.

Additional specimens examined. **China. Gansu** (甘肃): Minxian (岷县), T. P. Wang 4673 (PE); Zhouqu (舟曲), T. P. Wang 14322 (PE); Taohe River (洮河), Purdom 1024 (K), Rock 12948 (GH, LE, UPS); Zhuoni (卓尼), T. P. Wang 5347 (PE), Rock 12886 (GH, K, P); Tianshui (天水), W. Y. Hsia 5719 (PE). **Shaanxi** (陕西): Foping (佛坪), P. C. Kuo 1788 (PE); Ningshan (宁陕), H. W. Kung 3015 (PE); Taibaishan (太白山), Purdom 540 (GH, K), T. N. Liou & P. C. Tsoong 1224, 1443, T. P. Wang 1714 (PE). **Sichuan** (四川): Muli (木里), Rock 16731 (GH, US), T. T. Yu 6274 (PE); Jiulong (九龙), T. T. Yu 6855, W. L. Chen *et al.* 6379 (PE); Kangding (康定), X. L. Jiang 36121 (PE), Potanin s. n. (LE), Soulie 541 (G), Pratt 191 (K, P), E. H. Wilson 2467, 3117 (GH, K), H. Smith 10623 (GH, PE, S, UPS); Jinchuan (金川), X. Li 77638 (PE); Xiaojin (小金), X. S. Zhang 6315 (PE); Balangshan Mt., E. H. Wilson 4144 (GH); Lixian (理县), X. Li 74148 (PE); Barkam (马尔康), X. Li 71538 (PE); Hongyuan (红原), Sichuan Exped. 9051 (PE); Zoige (若尔盖), Sichuan Exped. 10112 (PE); Songpan (松潘), H. Smith 2795 (S), 3662 (GH, UPS); Nanping (南坪), W. L. Chen *et al.* 8539, 8663 (PE). **Yunnan** (云南): Zhongdian (中甸), Zhongdian Exped. 63 ~ 2360 (KUN); without precise locality, Forrest 28694 (PE).

Chang (1980) reduced *Clematis fargesii* Franch. and *C. fargesii* var. *souliei* Finet & Gagnep.

nep. to the synonymy of *C. potaninii* Maxim. I agree with her, and in this revision adopt her reduction.

Subsect. 2. **Heynianae** W. T. Wang in Acta Phytotax. Sin. 38 (5): 402 et (6): 499. 2000. TYPE: *C. heynei* Rau.

Woody vines. Leaves ternate. Flowers in pedunculate, 2-bracteate, 3-many-flowered cymes arising from leaf axils of hornotinous branch. Sepals 4 ~ 6, valvate, spreading, oblanceolate, at apex rounded. Anthers linear, at apex minutely apiculate.

1 species, endemic in central India.

3 *Clematis heynei* Rau in Sharma *et al.* Fl. Ind. 1:67. 1993; W. T. Wang in Acta Phytotax. Sin. 38(5): 402. 2000. — *C. triloba* Heyne ex Roth, Nov. Pl. Sp. Ind. Orient. 251. 1821, non Thunb. 1794; DC. Prodr. 1: 8. 1824; Wight & Arn. Prodr. Fl. Penn. Ind. Orient. 1: 2. 1834; Hook, f. & Thoms. Fl. Ind. 7. 1855; et in Hook. f. Fl. Brit. Ind. 1: 3. 1872; Kuntze in Verh. Bot. Ver. Brand. 26: 150. 1885; Prantl in Bot. Jahrb. 9: 259. 1888; Finet & Gagnep. in Bull. Soc. Bot. France 50: 526. 1903; Cooke, Fl. Pres. Bombay 1:2. 1903; Mukerjee in Bull. Bot. Surv. Ind. 1: 140. 1959; Gupta in Bull. Nat. Bot. Gard. Lucknow 54: pl. 18. 1961; Kapoor in l. c. 78: 56. 1962. — *C. heynei* M. Johnson, Klematis 432. 1997; Grey-Wils. Clematis 37. 2000. TYPE: E India. Type specimen not seen. Fig. 3: 6 ~ 7

Woody vine. Branches nearly not or very shallowly 8 ~ 10-sulcate, densely appressed-puberulous, glabrescent. Leaves ternate, upper ones sometimes simple; leaflets papery, narrowly to broadly ovate, 1.2 ~ 3.6 (~ 7) cm × 1 ~ 3.6 (~ 7) cm, at apex acute, at base rounded, subtruncate, or broadly cuneate, at margin entire, undivided or 2 ~ 3-lobed, on both surfaces appressed-puberulous, basal veins abaxially slightly prominent; petioles 2.5 ~ 7 cm long. Cymes axillary and terminal, 3-many-flowered; peduncles 2 ~ 6 cm long, with pedicels densely pubescent; bracts petiolate, ovate, 1.8 ~ 3 cm long or foliaceous. Flower 2.5 ~ 3.6 cm in diam.; pedicel 2.8 ~ 4.5 cm long. Sepals 4 ~ 6, white, oblanceolate, seldom oblong-lanceolate, 13 ~ 21 mm × 4 ~ 7 mm, at apex rounded, obtuse, or acute, mucronate, inside glabrous, outside sericeous, on margin puberulous or sometimes glabrous. Stamens 5 ~ 8 mm long, glabrous; anthers linear, 3 ~ 3.8 mm long, at apex minutely apiculate. Ovaries densely pubescent; styles ca. 6 mm long, densely villous. Achenes compressed, narrow-elliptic, 3 ~ 4 mm × 1.5 ~ 2 mm, appressed-pubescent; persistent styles ca. 2.4 cm long, plumose. Fl. Oct. – Nov.

India (Madhya Pradesh, Maharashtra, Karnataka). On slopes; up to 500 m.

Specimens examined. **India**. Pachmarhi, Hole 1969 (GH), Haines 2907 (K); Maharashtra, Janardhanan 72888 (K), Hamdri 104271 (BM); Concan, Law s. n. (K), Stocks & Law s. n. (K); Decan Hills, Gibson s. n. (K).

Subsect. 3 **Acerifoliae** W. T. Wang in Acta Phytotax. Sin. 36(2):101. 1998 et 38(6): 499. 2000. TYPE: *C. acerifolia* Maxim.

Small erect shrubs. Leaves simple, palmately 5-lobed. Flowers 2 alone or with leaves arising from an axillary bud of uppermost leaf, pedicellate only, without peduncle and bracts. Sepals 5 ~ 8, valvate, spreading, narrow-obovate, glabrous. Anthers oblong or narrow-oblong, at apex obtuse.

1 species, endemic in Beijing, N China.

The simple, palmately divided leaves of *C. acerifolia*, as those of *C. ranunculoides* Franch. (sect. *Viorna* subsect. *Connatae*) and *C. trifida* Hook (sect. *Pseudanemone*) are typical in the *Ranunculaceae*, and rare in the genus *Clematis*.

The glabrous sepals are curious in the *Clematis*, and in it there are only two species, *C. acerifolia* Maxim. and *C. sichotealinensis* Ulan (sect. *Clematis* sect. *Rectae*) with glabrous sepals (Wang, 2000b). In other species of the *Clematis*, the sepals are usually outside variously hairy, inside glabrous and sometimes on both surfaces hairy.

4 槭叶铁线莲 Fig. 4: 10 ~ 12

Clematis acerifolia Maxim. in Bull. Soc. Nat. Mosc. 54: 2. 1879; Kuntze in Verh. Bot. Ver. Brand. 26: 143. 1885; Forb. & Hemsl. in J. Linn. Soc. Bot. 23: 1. 1886; Pritz. in Bot. Jahrb. 29: 333. 1900; Finet & Gagnep. in Bull. Soc. Bot. France 50: 524. 1903; Ulbr. in Repert. Sp. Nov. Beih. 12: 376. 1922; Rehd. in J. Arn. Arb. 4: 187. 1923; Hand.-Mazz. in Acta Hort. Gotob. 13: 210. 1939; Fl. Beijing. 1: 304, fig. 249. 1962; Iconogr. Corm. Sin. 1: 750, fig. 1499. 1972; M. C. Chang in Fl. Reip. Pop. Sin. 28: 214, fig. 31. 1980; He, Fl. Beijing, rev. ed., 1: 247. 1984; J. W. Wang in Fl. Hebei. 1: 470. 1986; M. Johnson, Klematis 386. 1997; Grey-Wils. Clematis 76. 2000. TYPE: China. Beijing (北京), Baihuashan (百花山), 1877, Bretschneider s. n. (holotype, LE!; isotype, PE!).

Small erect shrub. Stem 20 ~ 60 cm tall, glabrous; branches nearly terete, not sulcate; bud scales ovate or ovate-oblong, 4 ~ 8 mm long, near apex puberulous. Leaves simple, glabrous; leaf blade thin-papery, pentagonous, 3 ~ 7.5 cm × 3.5 ~ 8 cm, at apex acute, at base subcordate, rarely broadly cuneate, palmately 5-lobed, at margin sparsely dentate, basal veins abaxially nearly flat or slightly prominent; petioles 2 ~ 5 cm long. Flowers 2 ~ 4 alone or with leaves arising from an axillary bud of uppermost leaf, 3.5 ~ 5 cm in diam.; pedicels 5.5 ~ 10 cm long, glabrous. Sepals 5 ~ 8, white or pinkish, spreading, narrow-obovate or oblong, 1.5 ~ 2.5 cm × 0.7 ~ 1.5 cm, at apex obtuse or subrounded, on both surfaces glabrous. Stamens 5 ~ 8 mm long, glabrous; anthers narrow-oblong or oblong, 1 ~ 2 mm long, at apex obtuse. Ovaries pubescent; style ca. 4.5 mm long, densely villous. Achenes compressed, narrow-ovate, 2.5 ~ 3 mm × 1.2 ~ 1.8 mm, densely pubescent; persistent styles ca. 2.5 cm long, plumose. Fl. Apr. - May.

China (Beijing). On cliffs; ca. 200 m.

Additional specimens examined. **China. Beijing.** Fangshan (房山), Shangfangshan (上方山), K. C. Kuan 75003, W. T. Wang *et al.* 7 (PE); Mt. Xiayunling (霞云岭), Med. Pl. Exped. 71 ~ 30 (PE); Pinggu (平谷), W. Z. Gong 11 (PE); Yundu (云都), Z. D. Xia 99 (PE); Hsiao Hsi Tian, J. C. Liu 2257 (GH, K).

Subsect. 4 **Montanae** Schneid. Ill. Handb. Laubh. 290. 1906; M. Johnson, Klematis 386. 1997, p. p. — *Clematis* sect. *Anemoniflora* Loudon, Encycl. Trees and Shrubs 14. 1842. — Subgen. *Cheirosia* sect. *Montanae* Grey-Wils. Clematis 75. 2000, nom. seminud. TYPE: *C. montana* Buch.-Ham. ex DC.

Woody vines. Leaves ternate, rarely pinnate, 5-foliate. Flowers 1 ~ 6 with several leaves arising from an axillary bud of old branch, pedicellate only, or singularly from leaf axils of hornotinous branch. Sepals 4, valvate, spreading, obovate or long elliptic or lanceolate. Anthers oblong, narrow-oblong, or linear, at apex obtuse, rarely minutely apiculate.

12 species, wide-spread from the island Taiwan of China westwards through the Chinese subtropical regions to the western Himalayas.

Ser. 1 **Montanae** Rehd. & Wils. in Sarg. Pl. Wils. 1: 331. 1913; Tamura in Sci. Rep. Osaka Univ. 4: 51. 1955; et in Acta Phytotax. Geobot. 16 (3): 80. 1956; W. T. Wang

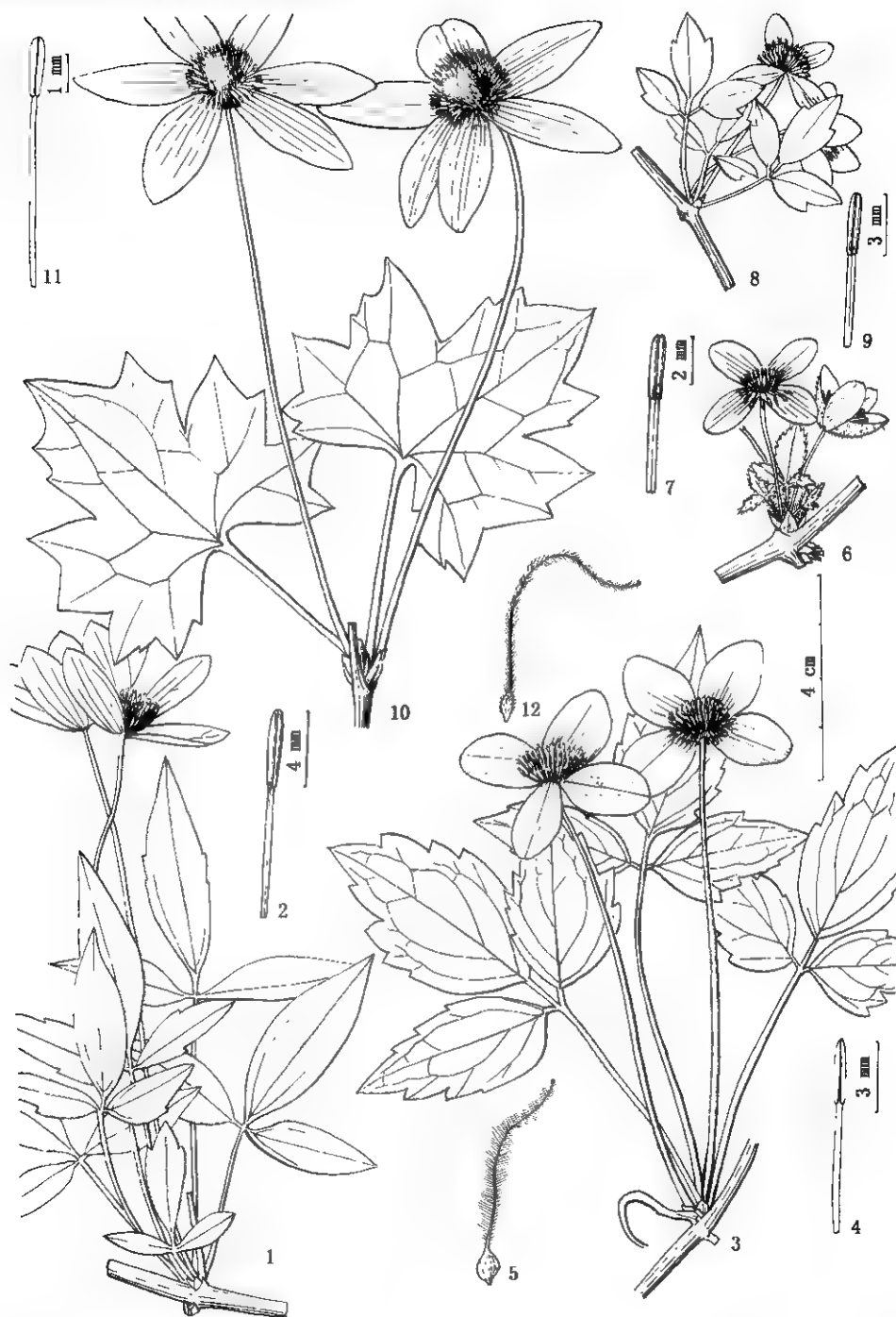


Fig. 4 1, 2. *Clematis wallichii* W. T. Wang 1. Flowering branch; 2. Stamen (from wallich 4681B). 3 ~ 5. *C. montana* Buch-Ham ex DC. var. *montana* 3. Flowering branch; 4. Stamen; 5. Achene (from C. C. Hsieh 41172). 6, 7. *C. montana* var. *praecox* (Kuntze) Bruhl 6. Flowering branch; 7. Stamen (from Stainton et al. 2626). 8 ~ 9. *C. montana* var. *sterilis* Hand-Mazz 8. Flowering branch; 9. Stamen (from T. T. Yu 8163). 10 ~ 12. *C. acrifolia* Maxim 10. Apical part of the flowering plant; 11. Stamen (from Med. Pl. Exped. 71-30); 12. Achene. (from Xia Zhen Dai 99)

in Acta Phytotax. Sin. 38(6): 500. 2000. LECTOTYPE: *C. montana* Buch.-Ham. ex DC.

Sepals obovate or narrow-obovate, at apex rounded or obtuse.

6 species, with the proximately same distribution area as the subsection.

5 绣球藤

Clematis montana Buch.-Ham. ex DC. Syst. 1: 164. 1818; et Prodr. 1: 9. 1824; Wall. Pl. As. Rar. 3: t. 27. 1830; Lindl. in Bot. Reg. n. s., 3: t. 53. 1840; Hook. f. & Thoms. in Hook. f. Fl. Brit. Ind. 1: 2. 1872; Kuntze in Verh. Bot. Ver. Brand. 26: 141. 1885; Franch. in Bull. Soc. Bot. France 33: 362. 1886; Pl. David. 2: 2. 1888; et Pl. Delav. 5. 1889; Maxim. in Acta Hort. Petrop. 11: 10. 1890; Bruhl in Ann. Bot. Gard. Cale. 5(2): 72. 1896; Pritz. in Bot. Jahrb. 29: 333. 1900; Finet & Gagnep. in Bull. Soc. Bot. France 50: 524. 1903; Rehd. & Wils. in Sarg. Pl. Wils. 1: 332. 1913; Ulbr. in Repert. Sp. Nov. Beih. 12: 374. 1922; Rehd. in J. Arn. Arb. 4: 187. 1923, 8: 106. 1927 et 10: 186. 1929; Marq. in J. Linn. Soc. Bot. 48: 153. 1929; Pai in Contr. Inst. Bot. Nat. Acad. Peiping 3: 260. 1935; Tsoong in l. c. 4: 119. 1936; Hand.-Mazz. in Acta Hort. Gotob. 13: 210. 1939; Rehd. Man. Cult. Tr. & Shr. ed. 2, 214. 1940; Tamura in Acta Phytotax. Geobot. 15: 118. 1954; W. T. Wang in Acta Phytotax. Sin. 6(4): 380. 1957; Mukerjee in Bull. Bot. Surv. Ind. 1(1): 139. 1959; Kapoor in Bull. Nat. Bot. Gard. Lucknow 124: 42. 1966; Iconogr. Corm. Sin. 1: 749, fig. 1497. 1972; Fl. Tsinling. 1(2): 295. 1974; Fl. Hupeh. 1: 366. 1976; Liu & Hsieh in Fl. Taiwan 2: 486. 1976; Hara in Hara & Williams, Enum. Flow. Pl. Nepal 2: 15. 1979, p. p.; M. C. Chang in Fl. Reip. Pop. Sin. 28: 220, pl. 73, fig. 1. 1980; Ding *et al.* Fl. Henan. 1: 457. 1981; C. Y. Wu, Ind. Fl. Yunnan. 1: 111. 1984; Grierson & Long, Fl. Bhutan 1(2): 286. 1984; M. Y. Fang in Fl. Xizang. 2: 91. 1985; Lin & Zhao in Fl. Fujian. 2: 30. 1985; Y. K. Li in Fl. Guizhou. 3: 65. 1986; X. W. Wang in Fl. Anhui 2: 334. 1986; W. T. Wang in Fl. Guangxi 1: 290. 1991; Z. H. Lin in Fl. Zhejiang 2: 284. 1992; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 529. 1993; Rau in Sharma *et al.* Fl. Ind. 1: 69. 1993; W. T. Wang in Keys Vasc. Pl. Wuling Mount. 167. 1995; Yang & Huang in Taiwaniana 40(3): 233. 1995; et in Fl. Taiwan, ed. 2, 2: 582, pl. 250. 1996; L. H. Zhou in Fl. Qinghai. 1: 349. 1997; M. Johnson, *Clematis* 394. 1997; J. Q. Fu in Fl. Loe.-Plat. Sin. 1: 454. 2000; Grey-Wils. *Clematis* 82, fig. 42, 43. 2000; K. M. Li in Fl. Hunan. 2: 680. 2000; W. T. Wang in Fl. Yunnan. 11: 228. 2000. — *C. anemoniflora* D. Don, Prodr. Fl. Nepal. 192. 1825. TYPE: Nepal. Buchanan s. n. (holotype, BM!).

C. punduana Wall. Cat. n. 4682. 1828, nom. nud.

C. montana ssp. *normalis* Kuntze in Verh. Bot. Ver. Brand. 26: 141. 1885; Gupta in Bull. Nat. Bot. Gard. Lucknow 80: pl. 34. 1963.

? *C. montana* ssp. *normalis* var. *incisa* Kuntze in l. c. Type specimen collected from Kumoan, not seen.

? *C. montana* ssp. *normalis* var. *pubescens* Kuntze in l. c. Syntypes Collected from Kumoan and Manipur, not seen.

? *C. montana* ssp. *normalis* var. *obtusisepala* Kuntze in l. c. Type specimen not designated.

? *C. montana* ssp. *normalis* var. *nutantiflora* Kuntze in l. c. Syntypes collected from Kumoan and Khasia, not seen.

? *C. montana* ssp. *normalis* var. *uniflora* Kuntze in l. c. Type specimen collected from

Khasia, not seen.

? *C. montana* ssp. *normalis* var. *brevipedunculata* Kuntze in l. c. Type specimen collected from the Himalayas, not seen.

C. kuntzeana Levl. & Van. in Bull. Acad. Intern. Geogr. Bot. 11: 171. 1902. TYPE: China. Guizhou (贵州), Xingyi (兴义), 1897-04-20, Bodinier 1576 (holotype, E!).

C. insulari-alpina Hayata, Ic. Pl. Formos. 3: 3, fig. 1. 1913. TYPE: China. Taiwan (台湾), Xingaoshan Mt., 1912-06, Mori s.n. (holotype, TI!).

C. montana var. *wilsonii* Sprague f. *platysepala* Rehd. & Wils. in Sarg. Pl. Wils. 1: 334. 1913; Hand.-Mazz. in Acta Hort. Gotob. 13: 210. 1939. TYPE: China. Sichuan (四川), Washan (瓦山), 1908-06, E. H. Wilson 2461 (holotype, GH!; isotype, E!).

C. spooneri Rehd. & Wils. var. *subglabra* S. Y. Hu in J. Arn. Arb. 61 (1): 74. 1980. TYPE: China. Hubei (湖北), 1948, W. C. Cheng & C. T. Hua (holotype, GH!; isotype, PE!).

C. montana is wide-spread in Asian subtropical montane regions and variable in leaf, flower and fruit morphology. In the present revision, are recognized ten varieties of it, of which most are concentrated in Southwest China and the Himalayas, and only var. *montana* extends from Southwest China eastwards to the Taiwan Island of China.

5a Var. *montana* Fig. 4: 3~5

Woody vine. Branches terete, often shallowly 4~10-sulcate, puberulous, often glabrescent. Leaves ternate; leaflets papery or herbaceous, ovate, rhombic-ovate, or elliptic, 2~7 cm × 1~5 cm, at apex acuminate, at base broadly cuneate or rounded, at margin sparsely dentate, occasionally entire, undivided, or 2~3-lobed, on both surfaces sparsely puberulous, basal veins abaxially nearly flat; petioles 2.5~9 cm long. Flowers (1~) 2~4 (~6) with several leaves arising from an axillary bud of old branch, 3~5 cm in diam.; pedicels 3~10 cm long, sparsely puberulous. Sepals 4, white, obovate, 1.3~3 cm × 0.8~1.5 cm, at apex rounded, inside glabrous, outside appressed-puberulous. Stamens 6~10 mm long, glabrous; anthers narrow-oblong, (1.5~) 2~3 mm long, at apex obtuse. Ovaries glabrous; styles 5~7 mm long, densely villous. Achenes strongly compressed, broadly rhombic or rhombic-ovate, 4~5 mm × 3~4 mm, at apex acute, glabrous; persistent styles 2.5~4 cm long, plumose. Fl. Apr. - Jun.

Afghanistan. Bangladesh. Bhutan. China (S Anhui, N W Fujian, S Gansu, N Guangxi, Guizhou, S W Henan, Hubei, Hunan, Jiangxi, S Ningxia, S Qinghai, S Shaanxi, Sichuan, Taiwan, S Xizang, Yunnan, Zhejiang). N India. Kashmir. N Myanmar. Nepal. N Pakistan. In bushes or forests, at forest margins, or by streams; 1200~4000 m.

Specimens examined. **Bangladesh.** Bengal, Griffith 11 (GH).

Bhutan. Kyapcha, Grierson & Long 892 (K); Mo Chu, Sinclair & Long 5144 (K); Sintoka Dzong, Bartholomev *et al.* 1538 (GH, US); Thimbu, Bartholomev *et al.* 1710 (GH).

China. **Anhui** (安徽): Jinzhai (金寨), H. Qian 92 (PE), K. Yao 9040 (GH, K); Qianshan (潜山), C. S. Fan & Y. Y. Li 223 (G); Huangshan (黄山), R. C. Ching 3045 (GH), W. Y. Hsia 3525, C. Pei 3926, P. C. Tsoong 3496 (PE); Jiuhuashan (九华山), R. C. Ching 2787 (K, PE). **Fujian** (福建): Huanggangshan (黄岗山), C. P. Jian *et al.* 400808 (PE). **Gansu** (甘肃): Xiahe (夏河), K. T. Fu 1056 (PE); Yuzhong (榆中), Huanghe Exped. 56-3258 (PE); Lanzhou (兰州), Shengan Exped. 10302 (PE); Tianshui (天水), Huanghe Exped. 3793, 3944 (PE). **Guangxi** (广西): Xingan (兴安), Guangxi Exped. 53-4208 (PE).

Guizhou (贵州): Anlong (安龙), P. C. Tsoong 1500 (PE); Xingyi (兴义), Bodinier 1976 (P); Zhenfeng (贞丰), C. Z. Dang 2486 (HGAS); Leishan (雷山), S. Guizhou Exped. 59-914, C. P. Jian *et al.* 51126 (PE); Kaili (凯里), S. Guizhou Exped. 59-1802 (PE); Jiangkou (江口), Z. S. Zhang *et al.* 400496 (PE); Fanjing Mt. (梵净山), Steward *et al.* 501 (K, US), N Guizhou Exped. 59-937 (PE). **Henan** (河南): Lushi (卢氏), K. M. Liou 5049, 5164 (PE); Xixia (西峡), Henan Exped. 60-1236 (PE); Songxian (嵩县), Forest. Exped. 59-1166 (PE). **Hubei** (湖北): Mao Dulien, W. Y. Chun 4079 (GH); Yichang (宜昌), Henry 204, 207, 1240 (K); Badong (巴东), Henry 5437, H. C. Chow 318 (GH); Xingshan (兴山), Y. Liu 466 (PE); Shennongjia (神农架), G. X. Fu 1028 (PE); Fangxian (房县), E. H. Wilson 2464 (GH, US). **Hunan** (湖南): Chengbu (城步), T. R. Cao 82113 (HUFI). **Jiangxi** (江西): Wugongshan (武功山), Jiangxi Exped. 54-1035, 57-55 (PE); Lushan Mt. (庐山), K. K. Tsoong 4284, X. X. Yang 10879 (PE). **Qinghai** (青海): Huangyuan (湟源), G. X. Liu s. n. (PE). **Shaanxi** (陕西): Hanzhong (汉中), J. W. Wang s. n. (PE); Fengxian (凤县), K. M. Liou 10712 (PE); Longxian (陇县), T. P. Wang 4069 (PE); Zhouzhi (周至), J. X. Yang 360 (PE); Taibaishan (太白山), Purdom s. n. (k), T. N. Liou & P. C. Tsoong 363, 2514 (PE); Huashan (华山), T. N. Liou 10914, T. P. Wang 19621 (PE). **Sichuan** (四川): Muli (木里), T. T. Yu 5940 (PE); Yanyuan (盐源), Schneider 3561 (GH), Fliegner *et al.* 1173 (K); Huili (会里), T. T. Yu 1382 (GH); Mianning (绵宁), S. K. Wu 1772 (PE); Yuoxi (越西), T. T. Yu 952, 1031 (GH); Shimian (石绵), C. Z. Xie 40049, 41602 (PE); Daxiangling (大相岭), C. Y. Chiao 1626 (GH); Butuo (布拖), Vegetation Group 13836 (PE); Meigu (美姑), Liangshan Exped. 1714 (PE); Leibo (雷波), Q. S. Zhao 1295 (PE); Pingshan (屏山), F. T. Wang 22784 (PE); Emeishan (峨眉山), Fabr 740 (K), E. H. Wilson 4693 (K), D. H. Du 305, G. H. Yang 55075, 55343 (PE); Erlangshan (二郎山), K. C. Kuan & W. T. Wang *et al.* 1973 (PE); Kangding (康定), W. C. Cheng 788, X. L. Jiang 35703, 36046 (PE), Pratt 125 (GH), Soulie 745 (K), 746 (P), Stevens 370 (GH); Batang (巴塘), Bonvalot & Henri d'Orleans s. n., Soulie 3513 (P); Jinchuan (金川), X. Li 77002 (PE); Baoxing (宝兴), T. T. Yu 2193 (PE); Dujiangyan (都江堰), W. P. Fang 2219, 2375 (GH), E. H. Wilson 4145 (GH), F. T. Wang 20884 (PE); Wenchuan (汶川), F. T. Wang 21046 (GH, PE); Maoxian (茂县), Aba Exped. 59-2643 (PE); Chengkou (城口), Farges 477 (G-Bois, I.E, P), W. P. Fang 10142, T. L. Dai 100766, 107261 (PE); Wanyuan (万源), P. Y. Li 6140 (PE); Wushan (巫山), G. H. Yang 58048 (PE); Wuxi (巫溪), G. H. Yang 58835 (PE); Fengjie (奉节), M. Y. Fang 24300 (PE); Nanchuan (南川), W. P. Fang 956 (P), 973, 1010 (GH). **Taiwan** (台湾): Xinzhu (新竹), Shimizu 20301 (KYO); Yilan (宜兰), Tamura & Shimizu 20718 (KYO); Taizhong (台中), Tamura 21161 (KYO, S); Yushan (玉山), Tamura *et al.* 21154, 22282 (KYO), Mt. Morrison, E. H. Wilson 10949 (K, US). **Xizang** (西藏): Gyirong (吉隆), Med. Pl. Exped. 72-47 (PE); Yadong (亚东), J. W. Zhang 2470 (PE); Kombo: Pem La, Ludlow, Sherriff & Elliot 15077 (GH); Zayü (察隅), C. W. Wang 65588 (PE); Markam (芒康), Qinghai-Xizang Exped. 11823, 11894 (PE). **Yunnan** (云南): Gongshan (贡山), T. T. Yu 22792 (PE); Deqên (德钦), Soulie 1495 (G), C. W. Wang 69803 (GH, PE), T. T. Yu 8282 (PE), Rock 22948 (GH); Zhongdian (中甸), T. T. Yu 11235, K. M. Feng 1346 (PE); Bijiang (碧江), H. T. Tsai 58077 (GH, PE); Weixi (维西), T. T. Yu 9026 (PE); Lanping (兰坪), H. T. Tsai 50620 (GH, PE); Jianchuan (剑川), Forrest 23494 (PE); Lijiang (丽江), Rock 3778, 8220 (GH, US), C. W. Wang 64783 (GH),

K. M. Feng 21673 (PE); Yongning (永宁), Forrest 5609 (K), Schneider 1767 (GH), T. T. Yu 5338 (PE); Heqing (鹤庆), Schneider 2924 (K), T. T. Yu 11143 (PE); Yangbi (漾濞), R. C. Ching 22504 (PE); Dali (大理), H. T. Tsai 53871, C. W. Wang 63262 (GH, PE); Binchuan (宾川), Ducloux 5335 (P); Luquan (禄劝), P. Y. Mao 971 (PE); Qiaojia (巧家), B. X. Sun 1062 (PE), Ducloux 5670 (GH, P); Zhaotong (昭通), Ducloux 3295 (P), H. T. Tsai 50852 (GH, PE); Mengzi (蒙自), Henry 10748 (MO, US); Wenshan (文山), Z. H. Ji 460 (PE). **Zhejiang** (浙江): Longquan (龙泉), Hangzhou Bot. Gard. Exped. 5580 (HHBG).

India. Balcha, Gamble 26676 (K); Chitral, Harriss 15855 (BM); Garhwal, Falconer 2 (GH), Gamble 22998 (K), Osmaston 628 (GH); Jumnotri, Rau 15760 (GH, P); Kumoan, Strachey & Winterbottom s. n. (GH); Punjab, Stewart 1904 (K, MO, S), Koelz 1872 (US); Simla, Brandis 711 (S), Parker 2807 (GH); without precise locality, J. D. Hooker & Thomson 1067, Jacquemont 458 (P).

Kashmir. Chaugam, Winterbottom 159 (K); Pahlgam, Stewart 8112a (GH); Springgar, Lancaster 36 (GH); Sunkhola, Stewart 17472 (US).

Myanmar. Chin Hills, Dickason 8544 (GH); Kambaiti, Malaise 135 (S); Sirhoi, F. Kingdon Ward 17260 (GH).

Nepal. Bagmati Zone, Nicolson 3350 (US); Bhartha, Polunin *et al.* 1937 (US); Bhujung, Stainton *et al.* 5118 (S); Chyangma, Zimmermann 194 (G); Doti, Tabata *et al.* 657 (GH); Dhumpu, Stainton *et al.* 955 (P); Chanpokhara, Stainton *et al.* 5118 (US); Gulfughang, Sharma 309 (BM); Junbesi, Tabata *et al.* 10305 (GH); Kangrang La, Williams 733 (BM); Kapter, Dobremez 1959 (G); Langtang, Lyon 57 (BM), Polunin 547 (GH); Lumsum, Stainton *et al.* 2594 (P); Maine, Polunin *et al.* 752 (US); Sibpuree, Sharma 309 (MO); Tarakhola, Stainton 207 (GH).

Pakistan. Hazara, Sanndas s. n., Webster & Sack 5651 (K), Dar *et al.* 550 (GH); Jaiu Turtung, Sheh 1502 (GH).

Sikkim. Tebu Valley, Gammie s. n. (US); without precise locality, J. D. Hooker s. n., Hara *et al.* 502 (GH).

5b 小叶绣球藤 Fig. 4: 8~9

Var. *sterilis* Hand.-Mazz. Symb. Sin. 7: 320. 1931; et in Acta Hort. Gotob. 13: 210. 1939; M. C. Chang in Fl. Reip. Pop. Sin. 28: 223, pl. 73, fig. 6. 1980; C. Y. Wu, Ind. Fl. Yunnan. 1: 112. 1984; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 530. 1993; L. H. Zhou in Fl. Qinghai. 1: 349. 1997; M. Johnson, Klematis 401. 1997; Grey-Wils. Clematis 85, fig. 47. 2000; W. T. Wang in Fl. Yunnan. 11: 230. 2000. TYPE: China. Sichuan (四川), Yanyuan (盐源), 3150~3350 m, 1914-05-12, Handel-Mazzetti 2215 (holotype, WU, not seen; isotype, GH!).

Leaflets elliptic, long elliptic, narrow-ovate, seldom lanceolate, 1~3 (~5) cm × 0.5~2 cm, at apex acute or acuminate, at margin 1 (~2)-denticulate on each side or entire, undivided. Flowers developing after seldom before leaves, 1.5~3 (~4) cm in diam.; pedicel 1~4.5 cm long. Sepals white, narrow-obovate or obovate, outside appressed-puberulous. Anthers narrow-oblong, (1.2~) 2~3 mm long. Achenes broadly rhombic, 4~5 mm × 3 mm, at apex acute, glabrous; persistent styles up to 2 cm long. Fl. Apr. - Jun.

China (SE Qinghai, W Sichuan, N Yunnan). On slopes or in bushes or forests; 2260~3300 m.

Additional specimens examined. **China. Sichuan** (四川): Batang (巴塘), Soulie 4001 (P); Jiulong (九龙), T. S. Ying 3996 (PE); Muli (木里), T. T. Yu 5940, S. K. Wu 3263 (PE); Ningyuan, Handel-Mazzetti 1348 (K), Schneider 883 (G, GH, K), 1034 (G, GH); Yanyuan (盐源), Schneider 3561 (K), S. Jiang 5503 (PE); Xichang (西昌), W. L. Chen, C. J. Chen *et al.* 5266 (PE); Shimian (石棉), C. C. Hsieh 39873, 42699 (PE); Kangding (康定), Soulie 507, 705 (G, P), 1108 (G), E. H. Wilson 4345 (GH). **Yunnan** (云南): Dêqên (德钦), K. M. Feng 6270 (PE); Weixi (维西), H. T. Tsai 59969 (PE); Zhongdian (中甸), K. M. Feng 995 (GH); Lijiang (丽江), Forrest 5581, 10159, 10194 (PE), Rock 3284 (GH, K, P, US), 8182 (GH, US), 24762, 24821 (GH), C. W. Wang 70674, T. T. Yu 8163 (PE), R. C. Ching 20108, 30196 (GH); Heqing (鹤庆), Delavay 3, 891 (P), K. M. Feng 765 (PE); Dayao (大姚), Maire s. n. (G); Luquan (禄劝), P. Y. Mao 960 (PE); Dongchuan (东川), Maire s. n. (G), S. B. Lan 666 (PE); Qiaojia (巧家), Ducloux 5670 (GH); Kin-tchong-chan, Maire 3321 (LE).

5c Var. *angustifoliola* Kuntze in Verh. Bot. Ver. Brand. 26: 141. 1885. TYPE: India. 'Kumaon, 2300 m', the collector name and number of the type specimen not mentioned in the protologue. Fig. 5: 7 ~ 10

C. montana var. *anemoniflora* Bruhl in Ann. Bot. Gard. Calc. 5(2): 73. 1896, non *C. anemoniflora* D. Don. SYNTYPES: India. Kumaon, Naini Tal, Royal s. n. (not seen); Garhwal; Massuri, Duthie s. n. (not seen); Simla, Gamble s. n. (not seen). Kashmir, Clarke s. n. (not seen).

Leaflets lanceolate or narrow-ovate, 3.2 ~ 4.5 cm × 1 ~ 2 cm, at apex acuminate, at margin denticulate, undivided. Flowers developing after leaves, 3.6 ~ 5.5 cm in diam.; pedicels 5 ~ 9.5 cm long. Sepals white, obovate, outside along margin slightly densely appressed-puberulous. Anthers narrow-oblong or linear, 3 ~ 4 mm long. Achenes narrow-ovate, ca. 7 mm × 3.2 mm, at apex attenuate, glabrous; persistent styles ca. 2.8 cm long. Fl. May.

N India, Kashmir. In montane regions; 2000 ~ 3000 m.

Specimens examined. **India.** Garhwal, Drummond 14778, Madden s. n. (K); Kumaon, Thomson 550, Strachey & Winterbottom 7 (K); Simla, Drummond 1129c, 1135a, Collett 26 (K); without precise locality, Royal s. n. (K).

Kashmir. Gamble 5883A (K).

5d Var. *grandiflora* Hook. in Curtis, Bot. Mag. 70: t. 4061. 1844; Bruhl in Ann. Bot. Gard. Calc. 5 (2): 74. 1896; Mukerjee in Bull. Bot. Surv. Ind. 1(1): 139. 1959; M. Johnson, Klematis 396. 1997, p. p.; Grey-Wils. Clematis 84. 2000, p. p.; W. T. Wang in Acta Phytotax. Sin. 38(4): 306. 2000. — *C. montana* ssp. *normalis* Kuntze var. *anemoniflora* Kuntze in Verh. Bot. Ver. Brand. 26: 141. 1885, non *C. anemoniflora* D. Don. Lectotype: t. 4061, l. c. (Wang in l. c., 2000). Fig. 5: 3 ~ 6

Leaflets ovate or narrow-ovate, 3.5 ~ 7 cm × 2 ~ 3 cm, at apex long acuminate, at margin dentate, usually undivided. Flowers developing after leaves, 6 ~ 9 cm in diam.; pedicels 7.5 ~ 13 cm long. Sepals white, obovate, outside along margin slightly densely appressed-puberulous. Anthers linear, 4.5 ~ 5.5 mm long. Achenes ovate, ca. 5 mm × 3 mm, at apex attenuate, glabrous; persistent styles ca. 2.5 cm long. Fl. May ~ Jun.

N India. Kashmir. N Pakistan. Nepal. 2000 ~ 3000 m.

Specimens examined. **India.** Chamba, Ellis s. n. (K); Garhwal, Falconer 2 (LE); Simla,



Fig. 5 1, 2 *Clematis laxistrigosa* (W. T. Wang & M. C. Chang) W. T. Wang 1. Flowering branch; 2. Stamen (from T. P. Wang 9614). 3-6 *C. montana* Buch. Ham. ex DC. *grandiflora* Hook. 3. Leaf; 4. Flower; 5. Stamen (from Ellis s. n.); 6. Achene (from Clarke 29206B). 7-10. *C. montana* var. *angustifoliola* Kuntze 7. Leaf; 8. Flower; 9. Stamen; 10. Achene. (from Royal s. n.)

Thomson s. n. (K); without precise locality, Sounders s. n. (K).

Kashmir. Banahal Pup, Thomson s. n. (K, LE, P); Doarian, Schmid 1704 (G); Pabal Gam, Tuller 814 (K); Trybol, Clarke 29206B (LE); without precise locality, Jacquemont 247 (P).

Pakistan. Changla Gali, Webster & Sack 5651 (G, GH); Murree, Stewart 27544 (G).

Nepal. Tui, Dobremez 74-750 (G).

5e 伏毛绣球藤 Fig. 10: 1~3

Var. *brevifoliola* Kuntze in Verh. Bot. Ver. Brand. 26: 141. 1885; W. T. Wang in Acta Phytotax. Sin. 38 (4): 307. 2000. TYPE: Sikkim. Jungh, 1849-07-23, J. D. Hooker s. n. (lectotype, K!; isotype, G!).

C. montana var. *chumbica* Bruhl in Ann. Bot. Gard. Calc. 5(2): 73. 1896. — *C. montana* ssp. *praecox* var. *chumbica* (Bruhl) Kapoor in Bull. Nat. Bot. Gard. Lucknow 124: 50. 1966; M. Johnson, Klematis 404. 1997; Grey-Wils. Clematis 87. 2000. SYNTYPES: Sikkim. King's collector s. n. (CAL, not seen); Chumbi, King's collector s. n. (CAL, not seen).

Leaflets ovate, narrow-ovate, or elliptic, 1.8~6 cm × 1.5~3 cm, at apex acuminate, at margin dentate, undivided or 2~3-lobed. Flowers developing with or after leaves, 1.8~4.5 cm in diam.; pedicels 2.6~7 cm long. Sepals white, obovate, outside appressed-puberulous. Anthers oblong or narrow-oblong, 1.8~3.2 mm long. Achenes broadly ovate, ca. 4.5 mm × 3.2 mm, at apex acute, appressed-puberulous; persistent styles 2.5~3.5 cm long. Fl. Jun. - Jul.

Bhutan. China (S Xizang, Yunnan). NW India. N Myanmar. Nepal. Sikkim. On slopes, at forest edges, in bushes; 800~4200 m.

Additional specimens examined. **Bhutan.** Kitiphu, Gould 427 (K); Phojiding, Bedi 596 (K); Sega La, Bedi 350 (K); Mo Chu, Sinclair & Long 5144 (K); Shado Jimpu, Cooper 1487 (BM).

China. Xizang (西藏): Chumbi (春丕), Dungboo s. n. (G, K), Qinghai-Xizang Exped. 74-2472 (PE); Yadong (亚东), Gould 1530, Hobson s. n. (K), Qinghai-Xizang Exped. 74-2449 (PE); Dinggye (定结), Qinghai-Xizang Exped. 75-5500 (PE); Mainling (米林), Qinghai-Xizang Exped. 74-1933 (PE); Nyalam (聂拉木), Qinghai-Xizang Exped. 75-6136 (PE). **Yunnan (云南):** Mahong, 1912-05, Maire s. n. (G).

Myanmar. Sirhoi, F. Kingdon Ward 17260 (BM).

Nepal. Everest Mt., Hingston s. n. (K); Gosainkun, Fell 25 (BM); Cupa Pakhari, Dobremez 1560 (G); Lantang, Polunin 497 (BM); Thudam, Stainton 361 (BM).

Sikkim. Dzongri, Starling *et al.* 254 (K); Larher, J. D. Hooker s. n. (K); Phedang, Starling *et al.* 29 (K); Thangshing, Starling *et al.* 190 (K).

5f 早花绣球藤 Fig. 4: 6~7

Var. *praecox* (Kuntze) Bruhl in Ann. Bot. Gard. Calc. 5(2): 73. 1896. — *C. montana* ssp. *praecox* Kuntze in Verh. Bot. Ver. Brand. 26: 142. 1885; Gupta in Bull. Nat. Bot. Gard. Lucknow 80: pl. 37. 1963; Kapoor in l. c. 124: 49. 1966; Rau in Sharma, Fl. Ind. 1: 71. 1993; M. Johnson, Klematis 403. 1997. TYPE: Sikkim, 3300 m, J. D. Hooker s. n. (holotype, B, not seen).

Leaflets rhombic-ovate or long elliptic, 1~4.6 cm × 0.7~4.2 cm, at apex acuminate, at margin dentate. Flowers developing before leaves, 1.6~3 cm in diam.; pedicels 1.5~4 cm long. Sepals white, obovate or obovate-oblong, outside densely appressed-puberulous. Anthers narrow-ob-

long, 1.8 ~ 2.4 mm long. Achenes broadly ovate, 4 ~ 5 mm × 3 mm, at apex acute, appressed-puberulous; persistent styles 2.5 ~ 3 cm long. Fl. Apr. – May.

China (S Xizang). Nepal. Sikkim. In bushes or in forests; 2700 ~ 4000 m.

Specimens examined. **China. Xizang** (西藏): Kada (卡达), P. C. Tsoong 6305 (PE); Tsanpo Valley, below Tsetang, F. Kingdon Ward 5634 (K).

Nepal. Thammu, Zimmermann 404 (G); Thyangboche, Zimmermann 502 (G); Uttar Gonga, Stainton, Sykes & Williams 2626 (G, P); without precise locality, Wallich 4681A (K).

5g 粉红绣球藤

Var. **rubens** Wils. in *Flora & Sylva* 3: 252, cum fig. 1905; Jouin in *Mitt. Deutsch. Dendr. Ges.* 16: 257. 1907; Rehd. & Wils. in *Sarg. Pl. Wils.* 1: 333. 1913; Fl. Hupeh. 1: 366. 1976; M. Johnson, *Klematis* 398. 1997; Grey-Wils. *Clematis* 85. 2000. TYPE: described on the basis of plants cultivated from seeds collected from western Hupeh, China. No type specimen designated.

Leaflets narrow-ovate or rhombic-elliptic, 4 ~ 9.5 cm × 2 ~ 4 cm, at apex acuminate or long acuminate, at margin dentate, usually undivided. Flowers developing after leaves, 4 ~ 8 cm in diam.; pedicels 6.5 ~ 11 cm long. Sepals rose-pink, broad-obovate, outside along margin on each side with a broad strip of finely velutinous indumentum. Anthers narrow-oblong, 2.5 ~ 3.5 mm long. Ovaries glabrous. Achenes unknown. Fl. May – Jun.

China (W Hubei, W Sichuan). In thickets or rocky places; 1300 ~ 2600 m.

Specimens examined. **China. Hubei** (湖北): Changyang (长阳), E. H. Wilson 587, p. p. (GH); Badong (巴东), H. C. Chow 318 (PE); Yichang (宜昌), E. H. Wilson 587, p. p. (GH, US); Xingshan (兴山), E. H. Wilson 587, p. p. (GH). **Sichuan** (四川): Chiu-ting-shan, E. H. Wilson 2466 (GH, US).

5h 长梗绣球藤 Fig. 6: 1 ~ 3

Var. **longipes** W. T. Wang in *Acta Phytotax. Sin.* 38(4):306. 2000. TYPE: China. Sichuan (四川), Emei Mt. (峨眉山), 2400 m, fl. white, 1957-06-11, G. H. Yang 55295 (holotype, PE!).

C. montana var. *grandiflora* auct. non Hook.: Rehd. & Wils. in *Sarg. Pl. Wils.* 1: 333. 1913; Hand.-Mazz. in *Acta Hort. Gotob.* 13: 210. 1939; M. C. Chang in *Fl. Reip. Pop. Sin.* 28: 222, pl. 73, fig. 2 ~ 3. 1980; C. Y. Wu, *Ind. Fl. Yunnan.* 1: 111. 1984; Y. K. Li in *Fl. Guizhou.* 3: 65. 1986; L. Q. Li in *Vasc. Pl. Hengduan Mount.* 1: 529. 1993; W. T. Wang in *Keys Vasc. Pl. Wuling Mount.* 168. 1995; M. Johnson, *Klematis* 396. 1997, p. p.; Grey-Wils. *Clematis* 84. 2000, p. p.

Leaflets ovate, rhombic-elliptic, or narrow-ovate, 3 ~ 10 cm × 2 ~ 4.5 cm, at apex acuminate, at margin coarsely dentate, undivided or 2 ~ 3-lobed. Flowers developing after leaves, 4 ~ 7 (~ 9) cm in diam.; pedicels 8 ~ 21 cm long. Sepals white, obovate, outside along margin on each side with a broad strip of densely velutinous indumentum. Anthers oblong, narrow-oblong, or nearly linear, 2 ~ 4 mm long. Achenes broadly ovate, 3.8 ~ 4 mm × 2.8 ~ 3.2 mm, glabrous, sometimes on apex puberulous; persistent styles 3 ~ 6.5 cm long. Fl. Apr. – Aug.

China (S Gansu, Guizhou, W Henan, W Hubei, W Hunan, S Shaanxi, Sichuan, SE Xizang, NW Yunnan). NE Myanmar. In bushes or forests, at forest edges, or by streams; 900 ~ 3800 m.

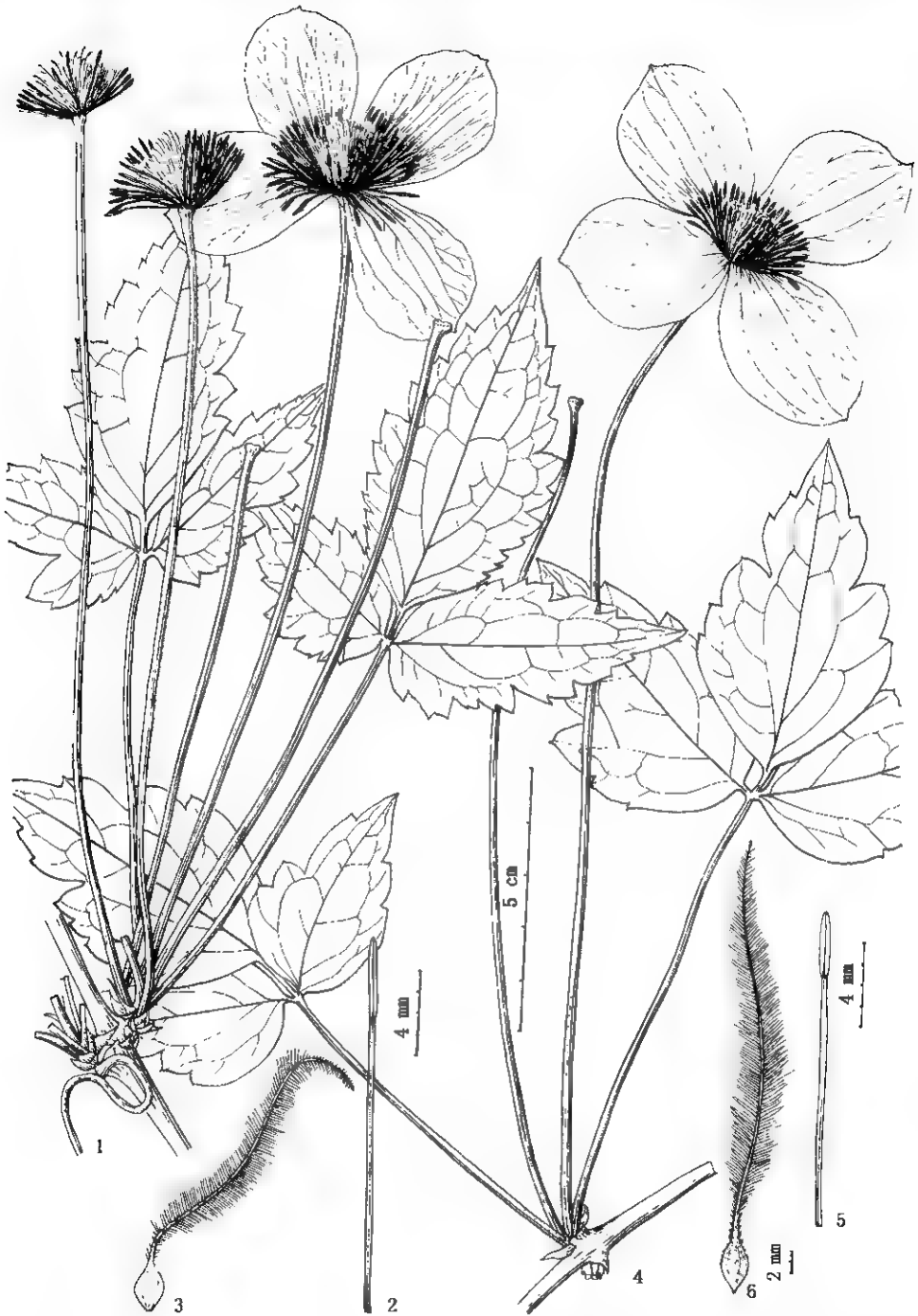


Fig. 6 1~3. *Clematis montana* Buch.-Ham ex DC. var. *longipes* W. T. Wang 1. Flowering branch; 2. Stamen (from X. L. Jiang 10692); 3. Achene (from J. H. Xiong 92534). 4~6. *C. montana* var. *glabrescens* (Comb.) W. T. Wang & M. C. Chang 4. Flowering branch; 5. Stamen (from R. C. Ching 20811); 6. Achene. (from K. M. Feng 21329)

Additional specimens examined. **China. Gansu** (甘肃): Wenxian (文县), S. Jiang & C. L. Jin 328 (PE). **Guizhou** (贵州): Fangjingshan (梵净山), Steward *et al.* 501 (K, P, PE, S), North Guizhou Exped. 431, 510, 937 (PE); Leishan (雷山), South Guizhou Exped. 928, C. P. Jian *et al.* 50487, 51126 (PE); Kaili (凯里), South Guizhou Exped. 2096 (PE). **Henan** (河南): Xixia (西峡), Henan Exped. 59-574 (PE). **Hubei** (湖北): Hefeng (鹤峰), Y. M. Wang 6162 (PE); Xuanen (宣恩), H. J. Li 3554 (PE); Jianshi (建始), W. B. Lin 86 (PE). **Hunan** (湖南): Qianyang (黔阳), Anjiang Agr. Coll. Exped. 1244 (PE); Longshan (龙山), L. H. Liou 10186 (PE). **Sichuan** (四川): Shimian (石棉), C. C. Hsieh 41242 (PE); Yuexi (越西), T. T. Yu 952, 1032 (PE); Xingwen (兴文), Econ. Pl. Exped. 59-436 (PE); Hanyuan (汉源), Q. S. Zhao 1086 (PE); Daxiangling (大相岭), C. S. Liu 541 (PE); Emeishan (峨眉山), E. H. Wilson 4693 (GH), W. P. Fang 2838 (P), F. T. Wang 20938 (PE), 23362 (LE), G. H. Yang 21045 (PE); Erlangshan (二郎山), W. G. Hu & Z. He 10228, X. L. Jiang 34192, 34299, K. C. Kuan, W. T. Wang *et al.* 1973 (PE); Dujiangyan (都江堰), W. P. Fang 2219, 2375 (PE); Baoxing (宝兴), David s. n. (P), T. T. Yu 1965, T. H. Tu 4249, X. S. Zhang 7379 (PE); Wenchuan (汶川), E. H. Wilson 2462 (GH, US), 4110 (GH), F. T. Wang 20938, 21045 (PE); Maoxian (茂县), S. Jiang 7104 (PE); Pingwu (平武), X. L. Jiang 10196, 10692 (PE); Chengkou (城口), Farges s. n. (G), T. L. Dai 100300 (PE); Nanchuan (南川), W. P. Fang 955, K. L. Chu 1287, G. F. Li 61456, 61612, 61677, J. H. Xiong & Z. L. Zhou 90797, 91026, 92534 (PE); Youyang (酉阳), Econ. Pl. Exped. 59-2551 (PE). **Xizang** (西藏): Mainling (米林), Med. Pl. Exped. 72-4084 (PE); Mêdog (墨脱), Qinghai-Xizang Exped. 74-3744 (PE), Z. C. Ni *et al.* 3028 (PE). **Yunnan** (云南): Dêqên (德钦), Soulie 1369 (P); C. W. Wang 64714, T. T. Yu 22414, K. M. Feng 6271, 6523 (PE); Gongshan (贡山), T. T. Yu 13299, 19332, 20347, 22140 (PE); Zhongdian (中甸), T. T. Yu 12178 (PE); Lijiang (丽江), R. C. Ching 20547 (PE).

Myanmar. Miyitkyina, Kermod 17268 (K).

5l Var. *urosepala* W. T. Wang in Acta Phytotax. Sin. 38 (6): 500, fig. 2: 1. 2000. TYPE: Myanmar. Tama Bum, 3000 m, 1953-06-20, F. Kingdon Word 21038 (holotype, GH!).

Leaflets rhombic-ovate, 4 ~ 8 cm × 3 ~ 5 cm, at apex long acuminate, at margin incised-dentate, 2 ~ 3-lobed. Flowers developing after leaves, 4.5 ~ 5 cm in diam.; pedicels 19 ~ 21 cm long. Sepals white, narrow-obovate, at apex rounded, with a tail-like projection 5 ~ 10 mm long, outside along margin on each side with a broad strip of densely velutinous indumentum. Anthers narrow-oblong, 2.5 ~ 3 mm long. Achenes unknown.

N Myanmar.

5j 晚花绣球藤 Fig. 7: 1 ~ 2

Var. *wilsonii* Sprague in Curtis, Bot. Mag. 137: t. 8365. 1911; Rehd. & Wils. in Sarg. Pl. Wils. 1: 333. 1913; Hand.-Mazz. in Acta Hort. Gotob. 13: 210. 1939; M. C. Chang in Fl. Reip. Pop. Sin. 28: 323. 1980, p. p. excl. syn.; C. Y. Wu, Ind. Fl. Yunnan. 1: 112. 1984; M. Johnson, Klematis 402. 1997; Grey-Wils. Clematis 86. 2000. TYPE: t. 8365, l. c.

Leaflets ovate, 3 ~ 8 cm × 2 ~ 5.2 cm, at apex acuminate, at margin coarsely dentate, usually 2 ~ 3-lobed. Flowers developing after leaves, 3.5 ~ 6 cm in diam.; pedicels 6 ~ 20 cm long. Sepals white, narrow-obovate, at apex often emarginate, outside along margin on each side with a broad strip of grey densely velutinous indumentum. Anthers narrow-oblong, 2.2 ~ 3.2 (~ 4) mm long, at apex minutely apiculate. Achenes broadly rhombic or broadly rhombic-obovate, ca. 3.5

mm × 3.2 mm, glabrous; persistent styles ca. 4.5 cm long. Fl. Jul. – Aug.

China (W Sichuan, SE Yunnan). In bushes or forests, at forest edges, or on grassy slopes; 2300 ~ 2800 m.

This variety was described from cultivated plant introduced by E. H. Wilson from Central China, and no type specimen was designated. In this case, the original coloured table accompanying the original description may be served as the nomenclatural type according to Article 8 of ICBN (Greuter *et al.* 2000).

Specimens examined. **China. Sichuan** (四川): Leibo (雷波), Econ. Pl. Exped. 59-990, 59-8674, Q. S. Zhao 1295 (PE); Hongxi (洪溪), Econ. Pl. Exped. 59-1284, Z. T. Guan 7455 (PE); Ebian (峨边), Z. T. Guan 6617 (PE); Emeishan (峨眉山), W. P. Fang 2838 (K, P), K. C. Kuan *et al.* 4107, Sichuan Exped. 73-138 (PE); Baoxing (宝兴), E. H. Wilson 868a (E, K); without precise locality, W. P. Fang 6651, 7679, 8193 (PE). **Yunnan** (云南): Mengzi (蒙自), Henry 10748 (GH).

5k 毛果绣球藤 Fig. 6: 4 ~ 6

Var. **glabrescens** (Comb.) W. T. Wang & M. C. Chang in Acta Bot. Yunnan. 15 (4): 351. 1993; W. T. Wang in Fl. Yunnan. 11: 230. 2000. — *C. chrysocoma* Franch. var. *glabrescens* Comb. in Not. R. Bot. Gard. Edinb. 18: 234. 1934; Hand. – Mazz. in Acta Hort. Gotob. 13: 211. 1939; C. Y. Wu, Ind. Fl. Yunnan. 1: 107. 1984; M. Johnson, Klematis 390. 1997. TYPE: China. Yunnan (云南), Lijiang (丽江), 1906-05, Forrest 2246 (holotype, E!); same locality, Forrest 5609 (paratypes, E!, P!, PE!); Shweli-Salwin divide, Forrest 8952 (paratype, E!).

C. montana var. *trichogyna* M. C. Chang in Fl. Reip. Pop. Sin. 28: 222, 359, fig. 33. 1980; C. Y. Wu, Ind. Fl. Yunnan. 1: 112. 1984; M. Y. Fang in Fl. Xizang. 2: 91. 1985; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 529. 1993; M. Johnson, Klematis 401. 1997; Grey-Wils. Clematis 85. 2000. TYPE: China. Yunnan (云南), Dêqên (德钦), K. M. Feng 23740 (holotype, KUN!).

Leaflets ovate or narrow-ovate, 3 ~ 14 cm × 2 ~ 6 cm, at apex acuminate, at margin dentate or crenate, sometimes entire, 2 ~ 3-lobulate, 2 ~ 3-lobed, or undivided. Flowers developing after leaves, 5 ~ 8.8 cm in diam.; pedicels 10 ~ 24 cm long. Sepals white, obovate or narrow-obovate, at apex often mucronate, outside along margin on each side with a broad strip of velutinous indumentum. Anthers narrow-oblong or linear, 2 ~ 3.5 mm long. Achenes rhombic-obovate, ca. 6 mm × 3 mm, appressed-puberulous; persistent styles 4.5 ~ 7 cm long. Fl. May – Sept.

China. (SE Xizang, NW Yunnan). In forests, on grassy slopes, or by streams; 2100 ~ 3800 m.

Additional specimens examined. **China. Xizang** (西藏): Cona (错那), Qinghai-Xizang Exped. 75-1850 (PE); Nyingchi (林芝), Med. Pl. Exped. 72-3516 (PE); Mêdog (墨脱), Qinghai-Xizang Exped. 75-1368 (PE); Tangmai (通麦), J. W. Zhang & J. T. Wang 506 (PE); Bomi (波密), T. S. Ying & D. Y. Hong 84 (PE); Zayü (察隅), Rock 22239 (GH). **Yunnan** (云南): Dêqên (德钦), Soulie 1369 (G-Bois, K, LE), C. W. Wang 64714, T. T. Yu 8433 (PE); Gongshan (贡山), T. T. Yu 19791, 22090 (PE); Bijiang (碧江), H. T. Tsai 58445 (PE); Weixi (维西), C. W. Wang 63818, K. M. Feng 4883 (PE); Jianchuan (剑川), Forrest 21518, 23118 (GH, K); Zhongdian (中甸), T. T. Yu 11495, K. M. Feng 1328 (PE);

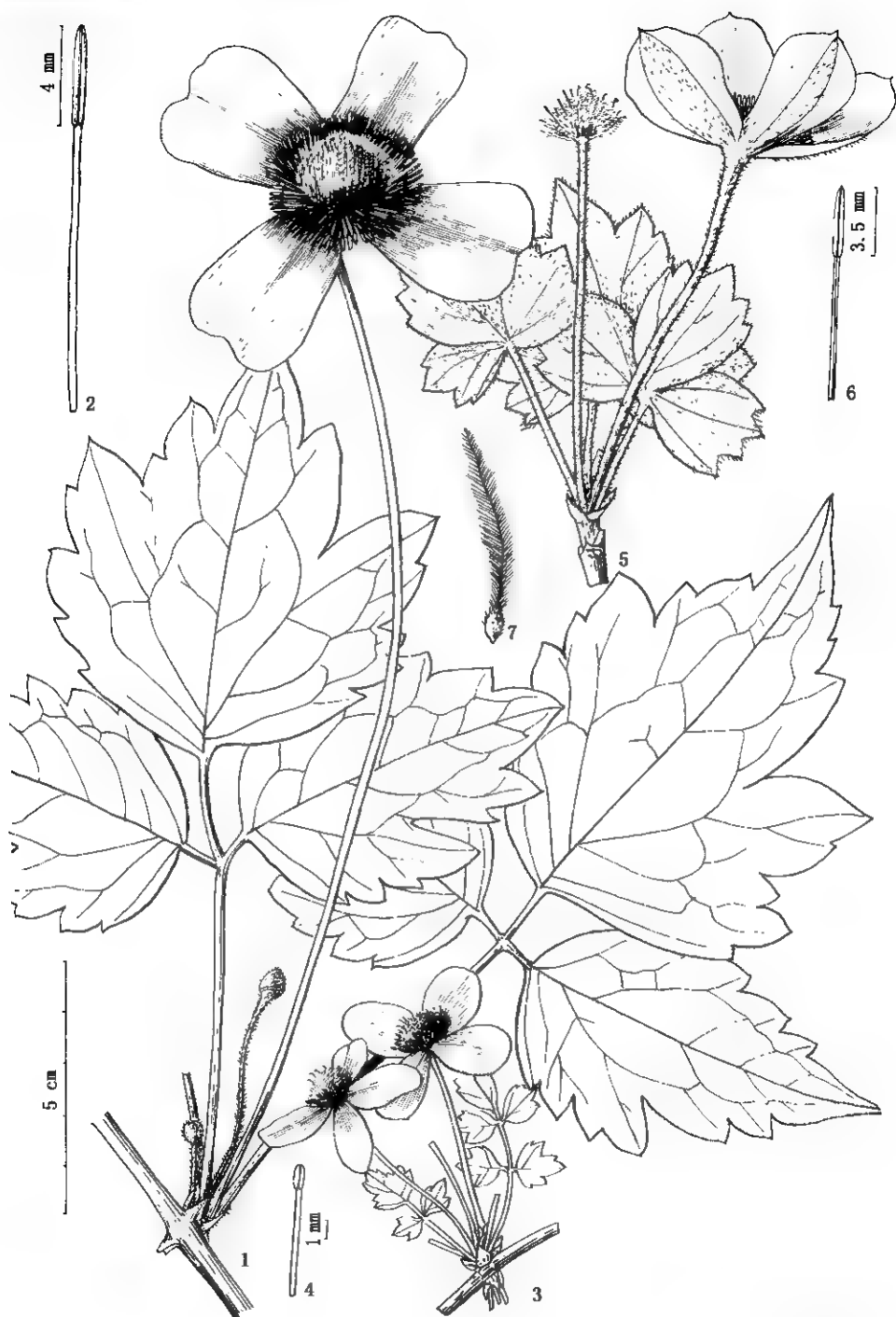


Fig. 7 1, 2. *Clematis montana* Buch.-Ham. ex DC. var. *wilsonii* Sprague 1. Flowering branch; 2. Stamen (from Sichuan Veg. Exped. 3761). 3, 4. *C. gracilifolia* Rehd. & Wils. var. *gracilifolia* 3. Flowering branch; 4. Stamen (from Li Xin 70803). 5-7. *C. chrysocoma* Franch. 5. Flowering branch; 6. Stamen (from Forrest 2006); 7. Achene. (from W. K. Hu 37899)

Lijiang (丽江), Forrest 24295 (P), Rock 4139 (GH), T. T. Yu 15597, R. C. Ching 20811, K. M. Feng 21329 (PE); Shweili-Salwin divide, Forrest 11982 (GH, PE).

6 薄叶铁线莲

Clematis gracilifolia Rehd. & Wils. in Sarg. Pl. Wils. 1: 331. 1913; Rehd. in J. Arn. Arb. 4: 186. 1923 et 9: 39. 1928; Ulbr. in Repert. Sp. Nov. Beih. 12: 374. 1912; Hand.-Mazz. Symb. Sin. 7: 320. 1931, sphalm. *C. graciliflora*, et in Acta Hort. Gotob. 13: 210. 1939; Rehd. Man. Cult. Tr. & Shr., ed. 2, 215. 1940; M. C. Chang in Fl. Reip. Pop. Sin. 28: 224, pl. 74. 1980; et in Iconogr. Corm. Sin. Suppl. 1: 466, fig. 8625. 1982; C. Y. Wu, Ind. Fl. Yunnan. 1: 110. 1984; M. Y. Fang in Fl. Xizang. 1: 91. 1985; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 530. 1993; M. Johnson, Klematis 391. 1997; J. Q. Fu in Fl. Loe.-Plat. Sin. 1: 456. 2000; Grey-Wils. Clematis 79, fig. 37 ~ 38. 2000; W. T. Wang in Fl. Yunnan. 11: 231. 2000. TYPE: China. Sichuan (四川), Mt. Panlangshan, 4000 ~ 4300 m, 1908-06-24, E. H. Wilson 2480 (holotype, GH!; isotype, K!); Maoxian (茂县), 1910-09, E. H. Wilson 4045 (paratype, GH!; isoparatype, K!). **Gansu** (甘肃): Zhoni (卓尼), 1911, Purdom 1140 (paratype, GH!).

C. montana DC. var. *pentaphylla* Maxim. in Acta Hort. Petrop. 11: 10. 1890; Rehd. in J. Arn. Arb. 4: 187. 1927; Hand. - Mazz. in Acta Hort. Gotob. 13: 210. 1939. — *C. gracilifolia* var. *pentaphylla* (Maxim.) W. T. Wang in Acta Phytotax. Sin. 6(4): 380. 1957; Fl. Tsinling. 1(2): 296. 1974. SYNTYPES: China. Gansu (甘肃), inter vicos Morping et Wuping, 1885-06-27, Potanin s. n. (LE!); Dshoni (卓尼), 1885-06-27, Potanin s. n. (LE!); Dshoni (卓尼), 1885-05-31, Potanin s. n. (LE!); valle fl. Taohe (To-ho 洮河), 1885-05-28, Potanin s. n. (LE!).

C. montana var. *batangensis* Finet in J. de Bot. 21: 15. 1908, p. p. SYNTYPES: China. Sichuan (四川), Yarjiang (Yargong) (雅江), 1903, Soulie 3019 (P!); Batang (巴塘), 1904, Soulie 4000, 4002 (P!).

C. montana var. *trifoliolata* M. Johnson, Klematis 393, cum fig. 1997. TYPE: China. Sichuan (四川), Kangding (康定), Yulingkuang, 1935-10-19, H. Smith 12580 (holotype, UPS, not seen).

Consisting of four varieties endemic to SW China.

6a Var. *gracilifolia* Fig. 7: 3 ~ 4

Woody vine. Branches shallowly 4 ~ 6-sulcate, appressed-puberulous, glabrescent. Leaves usually pinnate, 5-foliolate, seldom ternate; leaflets thin-papery or herbaceous, ovate, narrow-ovate, broad-ovate, or obovate, 0.5 ~ 3.5 cm × 0.3 ~ 3 cm, at apex acute, at base cuneate or rounded, at margin sparsely serrate or denticulate, undivided or 2 ~ 3-lobed, on both surfaces sparsely puberulous, basal veins nearly flat; petioles 1.5 ~ 7.5 cm long. Flowers 1 ~ 5 with several leaves arising from an axillary bud of old branch, 2 ~ 3.5 cm in diam.; pedicels 3 ~ 6.5 cm long, sparsely puberulous. Sepals 4, white or outside tinged with pinkish, obovate, 0.9 ~ 1.8 cm × 0.4 ~ 1.1 cm, at apex rounded, inside glabrous, outside appressed-puberulous. Stamens 5.5 ~ 8 mm long, glabrous; anthers narrow-oblong, 1.6 ~ 2 mm long, at apex obtuse. Ovaries glabrous; styles 5 ~ 6 mm long, densely villous. Achenes strongly compressed, broadly ovate, 4 ~ 4.5 mm × 3.2 ~ 3.8 mm, glabrous; persistent styles 1.5 ~ 2.2 cm long, plumose. Fl. Apr. - Jun.

China (S Gansu, W Sichuan, E Xizang, NW Yunnan). In forests or by streams; 2000 ~ 3800 m.

Additional specimens examined. **China. Gansu** (甘肃): Zhouqu (舟曲), T. P. Wang 15140 (PE); Minxian (岷县), Rock 12428 (GH, K, P, S), 12469 (GH, UPS), T. P. Wang 14045, Taohe Exped. 3119, 3242 (PE); Wushan (武山), Huanghe Exped. 56-4587 (PE); Zhuoni (卓尼), Purdom 1025 (K), Rock 12164 (GH, LE), 12294 (GH); Lintan (临潭), R. C. Ching 883 (GH), Taohe Exped. 3351 (PE); Xiahe (夏河), K. T. Fu 997 (PE); Lanzhou (兰州): Xinglongshan (兴隆山), Shangan Exped. 10302 (PE). **Sichuan** (四川): Muli (木里), T. T. Yu 14689 (PE); Daocheng (稻城), Sichuan Exped. 73-1853 (PE); Jiulong (九龙), W. L. Chen *et al.* 6471 (PE); Mt. Minya Konka, Rock 12851 (PE); Yajiang (雅江), S. Jiang 2816 (PE); Kangding (康定), K. C. Kuan, W. T. Wang *et al.* 1340 (PE), H. Smith 12943 (UPS), 12851 (GH, PE, UPS); Ganzi (甘孜), P. C. Tsoong 5114 (PE); Dêgê (德格), Y. W. Tsui 5121, S. Jiang 2440 (PE); Rangtang (壤塘), S. Jiang 8914 (PE); Luhuo (炉霍), T. S. Ying 4606 (PE); Jinchuan (金川), S. Jiang 1114 (PE); Xiaojin (小金), X. S. Zhang 6285 (PE); Lixian (理县), S. Jiang 832, 1607 (PE); Maoxian (茂县), S. Jiang 955 (PE); Heishui (黑水), X. Li 73267 (PE); Barkam (马尔康), X. Li 70152, 70803, 70904, S. Jiang 4933 (PE); Shuajingsi (刷经寺), Z. Y. Zhang 22196, 22384 (PE); Songpan (松潘), T. P. Wang 7776, K. T. Fu 1865 (PE); Nanping (南坪), P. C. Li 141, Q. S. Zhao 3143 (PE). **Xizang** (西藏): Zayü (察隅), C. W. Wang 65271 (PE), Ludlow & Sherriff 1399 (UPS); Jomda (江达), Qinghai-Xizang Exped. 76-9865 (PE); Sogxian (索县), J. T. Wang 3288 (PE); Tsanpo Valley, Yusum, Ludlow, Sherriff & Taylor 5716 (BM). **Yunnan** (云南): Dêqên (德钦), Qinghai-Xizang Exped. 8349, 11785 (PE).

6b 大花薄叶铁线莲

Var. **macrantha** W. T. Wang & M. C. Chang in Fl. Reip. Pop. Sin. 28: 359. 1980; M. Johnson, Klematis 393. 1997; Grey-Wils. Clematis 80. 2000. TYPE: China. Sichuan (四川), Baoxing (宝兴), Denglonggou (灯笼沟), 1954-06-06, T. P. Soong 38390 (holotype, NAS!; isotype, PE!).

Leaflets undivided or 2~3-lobed. Flowers 5~6.5 cm in diam. Stamens 7~14 mm long; anthers 2.8~3.2 mm long. Ovaries and achenes glabrous. Fl. Jun.

China (W Sichuan).

Additional specimens examined. **China. Sichuan** (四川): Lixian (理县), Z. He 12843 (PE).

6c 毛果薄叶铁线莲

Var. **lasiocarpa** W. T. Wang in Acta Phytotax. Sin. 38(6): 501. 2000. TYPE: China. Xizang (西藏), Lhunze (隆子), Jiayu (加玉), 1975-07-03, Qinghai-Xizang Exped. 75-446 (holotype, PE!).

Leaflets undivided. Ovaries and achenes puberulous. Fl. Jul.

China (SE Xizang). In bushes on slopes; 3500 m.

6d 狭裂薄叶铁线莲

Var. **dissectifolia** W. T. Wang & M. C. Chang in Fl. Reip. Pop. Sin. 28: 359. 1980; M. Y. Fang in Fl. Xizang. 2: 91. 1985; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 530. 1993; M. Johnson, Klematis 392. 1997; Grey-Wils. Clematis 79, fig. 39. 2000. TYPE: China. Sichuan (四川), Muli (木里), 2800 m, 1937-06-16, T. T. Yu 6308 (holotype, PE!); Yajiang (雅江), 4000 m, 1974-09-17, C. C. Wang 5021 (paratype, PE!).

Leaflets 2~3-parted to 2~3-sect. Flowers 1.5~2.3 cm in diam. Stamens 7~9 mm long;

anthers 2 ~ 3 mm long. Ovaries and achenes glabrous. Fl. May - Jun.

China (W Sichuan, E & S Xizang). In bushes or on slopes; 2800 ~ 4000 m.

Additional specimens examined. **China. Sichuan** (四川): Muli (木里), T. T. Yu 6223 (PE); Kangding (康定), S. Jiang 2863, 2974, Q. Q. Wang 4427 (PE); Qianning (乾宁), Sichuan Exped. 5378 (PE). **Xizang** (西藏): Markam (芒康), Qinghai-Xizang Exped. 76-8145 (PE); Nyingchi (林芝), J. W. Zhang & J. T. Wang 12 (PE); Nyalam (聂拉木), Y. T. Zhang & K. Y. Lang 3156, 3502 (PE).

7 丽叶铁线莲 Fig. 8: 1 ~ 2

Clematis venusta M. C. Chang in Fl. Reip. Pop. Sin. 28: 218, 358, fig. 32. 1980; C. Y. Wu, Ind. Fl. Yunnan. 1: 114. 1984; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 528. 1993; M. Johnson, Klematis 406. 1997; Grey-Wils. Clematis 81, fig. 41. 2000; W. T. Wang in Fl. Yunnan. 11: 232. 2000. TYPE: China. Yunnan (云南), Weixi (维西), Yezhi (叶枝), 1940-05-14, K. M. Feng 3851 (holotype, KUN, not seen; photo. PE!); same locality, 1940-05-16, K. M. Feng 4134 (paratype, KUN, not seen; isoparatype, PE!).

Woody vine. Branches nearly terete, not or very shallowly 8-sulcate, glabrous. Leaves ternate; leaflets papery, laceolate or narrow-ovate, 2.5 ~ 7 cm × 0.8 ~ 2 cm, at apex attenuate, at base cuneate or broadly cuneate, at margin entire, seldom 1 ~ 2-denticulate, adaxially subglabrous or glabrescent, abaxially sparsely appressed-puberulous, basal veins abaxially nearly flat; petioles 1.5 ~ 5.2 cm long, sparsely pilose. Flowers 1 ~ 5 with about 2 pairs of leaves arising from an axillary bud of old branch, (3 ~) 5 ~ 8 cm in diam.; pedicels 4 ~ 15 cm long, sparsely puberulous. Sepals 4, white or pinkish, spreading, broad-elliptic or obovate-elliptic, (1.5 ~) 2.5 ~ 4 cm × (~ 6) 2 ~ 2.5 cm, at apex rounded, rounded-obtuse, or emarginate, inside glabrous, outside sparsely but near margin densely appressed-puberulous. Stamens 8 ~ 14 mm long, glabrous; anthers linear or narrow-oblong, (2 ~) 2.5 ~ 3 mm long, at apex obtuse. Ovaries glabrous or at base pubescent; styles ca. 7 mm long, densely villous. Achenes strongly compressed, narrow-ovate, ca. 7 mm × 3.5 mm, glabrous, slightly tumidly marginate, on both surfaces with 2 longitudinal thin ribs; persistent styles ca. 1 cm long, brownish-plumose. Fl. May.

China (SW Sichuan, NW Yunnan). In mixed forests or bushes by streams; 2300 ~ 3100 m.

Additional specimens examined. **China. SW Sichuan** (四川西南部): without precise locality, E. H. Wilson 2460 (K). **Yunnan** (云南): Lijiang (丽江), Yulongshan (玉龙山), SW China Exped. 65-164 (PE); Lijiang, Ludian (鲁甸), ? 62-720 (PE); Zhongdian (中甸), Qiaotou (桥头), Zhongdian Exped. 63-3030 (IMD); Deqên (德钦), Tsekou, Soulie 1494, Monbeig s. n. (K); without precise locality, Delavay s. n. (G, K), Forrest 10194 (K).

8 金毛铁线莲 Fig. 7: 5 ~ 7

Clematis chrysocoma Franch. in Bull. Soc. Bot. France 33: 362. 1886; Pl. Delav. 4. 1889; Finet & Gagnep. in Bull. Soc. Bot. France 50: 525. 1903; Schneid. Ill. Hand. Laubh. 2: 910, fig. 570 d-g. 1906; Sprague in Curtis, Bot. Mag. 137: t. 8395. 1911; Rehd. & Wils. in Sarg. Pl. Wils. 1: 335. 1913; Ulbr. in Repert. Sp. Nov. Beih. 12: 374. 1922; Pei in Sinensia 7: 471. 1936; Hand.-Mazz. Symb. Sin. 7: 320. 1931 et in Acta Hort. Gotob. 13: 211. 1939; Rehd. Man. Cul. Tr. & Shr., ed. 2, 214. 1940; Iconogr. Corm. Sin. 1: 749, fig. 1498. 1972; M. C. Chang in Fl. Reip. Pop. Sin. 28: 218, pl. 72. 1980; C. Y. Wu,



Fig. 8 1,2. *Clematis venusta* M. C. Chang 1. Flowering branch; 2. Stamen (from K. M. Feng 4134). 3,4. *C. nungingshanica* W. T. Wang 3. Flowering branch; 4. Stamen (from P. K. Hsiao et al. 1128). 5,6 *C. wenshanensis* W. T. Wang 5. Flowering branch; 6. Stamen. (from Y. M. Shui 2714)

Ind. Fl. Yunnan. 1: 107. 1984; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 528. 1993; M. Johnson, Klematis 388. 1997; Grey-Wils. Clematis 76, fig. 34-36. 2000; W. T. Wang in Fl. Yunnan. 11: 231. 2000. TYPE: China. Yunnan (云南), Eryuan (洱源), Yang-in-chan, 1883-08-01, Delavay 121 (lectotype, designated here, P!); same locality, 1884-04-26, Delavay 940 (syntype, P!).

C. montana DC. var. *sericea* Franch. ex Finet & Gagnep. in Bull. Soc. Bot. France 50: 555. 1903. — *C. chrysocoma* var. *sericea* (Franch. ex Finet & Gagnep.) Schneid. in Bot. Gaz. 63: 516. 1917; Rehd. Man. Cult. Tr. & Shr., ed. 2, 214. 1940; M. Johnson, Klematis 390. 1997. TYPE: China. Sichuan (四川), Baoxing (Mupin 宝兴), 1869-06, David. s. n. (holotype, P!).

C. spooneri Rehd. & Wils. in Sarg. Pl. Wils. 1: 334. 1913; Grey-Wils. Clematis 88. 2000. TYPE: China. Sichuan. Baoxing, 1908-06, E. H. Wilson 868 (holotype, GH!).

Woody vine, sometimes nearly erect. Branches shallowly 8-sulcate, glabrescent. Leaves ternate; leaflets papery, rhombic-obovate or rhombic-ovate, 2~6 cm × 1.5~4.5 cm, at apex acute or acuminate, at base broadly cuneate, at margin few-dentate, adaxially more or less densely appressed-pubescent, abaxially densely yellowish-strigose, basal veins nearly flat; petioles 1~6.5 cm long. Flowers 1~6 with several leaves arising from an axillary bud of old branch or singularly born in leaf axils of homotinous branch, 3.2~6 cm in diam.; pedicels 4.5~8.5 (~20) cm long, densely puberulous. Sepals 4 (~5~8), pink or white, obovate or elliptic-obovate, 1.6~3 cm × 0.8~2 cm, at apex obtuse or rounded, inside glabrous, outside appressed-puberulous, along margin velutinous. Stamens 6~11 mm long, glabrous; anthers narrow-oblong, 3~4 mm long, at apex obtuse. Ovaries pubescent; styles ca. 7 mm long, densely villous. Achenes compressed, ovate, 4~5 mm × 2~3 mm, pubescent; persistent styles 2.2 cm~2.7 cm long, fulvous-plumose. Fl. Apr. – Jul.

China (W Guizhou, W Sichuan, NW C & E Yunnan). In bushes by streams, on grassy, dry or stony slopes; 1000~3000 m.

Additional specimens examined. **China. Guizhou** (贵州): Panxian (盘县), D. Z. Fu *et al.* 95, X. Y. Hou 2649 (PE); Weining (威宁), Bijie Exped. 59-13 (PE). **Sichuan** (四川): Muli (木里), T. T. Yu 5953, 6083 (PE); Xichang (西昌), W. L. Chen *et al.* 5599, 6129 (PE); Jinyang (金阳), Liangshan Exped. 59-3204 (PE); Puxiong (普雄), Liangshan Exped. 59-4577 (PE); Butuo (布拖), Liangshan Exped. 59-5701 (PE); Yuexi (越西), T. T. Yu 922, 982 (GH, PE); Ebian (峨边), T. T. Yu 772 (PE); Kangding (康定), Bonvalot & Henri d'Orleans s. n. (P), Soulie 719 (P); Daxiangling (大相岭), H. Smith 1936 (GH), 10229 (PE); Luding (泸定), K. C. Kuan, W. T. Wang *et al.* 1859 (PE); Erlangshan (二郎山), W. K. Hu 37899, K. C. Kuan, W. T. Wang *et al.* 2197 (PE); Baoxing (宝兴), Z. P. Soong 38128, S. Jiang 10155, K. C. Kuan, W. T. Wang *et al.* 2962 (PE). **Yunnan** (云南): Zhongdian (中甸), K. M. Feng 1040 (PE); Lijiang (丽江), Forrest 5712 (K), Schneider 3396 (GH, K), Rock 3248, 3924, 6967, 9469 (GH), T. T. Yu 15083 (PE), R. C. Ching 20294 (GH, PE); Heqing (鹤庆), Forrest 2006 (LE), R. C. Ching 23916, K. M. Feng 859 (PE); Lanping (兰坪), P. I. Mao 288 (PE); Eryuan (洱源), Delavay s. n. (K, P); Yangbi (漾濞), R. C. Ching 22401, T. N. Liou 22914 (PE); Dali (大理), Delavay s. n. (P), Lamprich 913 (S), Murata *et al.* 395 (GH); Binchuan (宾川), Ducloux 7081 (GH, P), H. T. Tsai 52965, 52998 (GH, PE), T. N. Liou 22068 (PE); Kunming (昆明), Cavalerie 7916 (K), Du-

cloux 181 (P), Schoch 24 (G, GH), C. W. Wang 62996 (GH, PE), T. N. Liou 20608 (PE), Y. Tsiang 16034 (GH); Songming (嵩明), Ducloux 7622 (P), B. Y. Qiu 51614 (PE); Luquan (禄劝), P. I. Mao 1361, 1379 (PE); Dongchuan (东川), Maire s. n. (G, GH), 112, 406 (K), S. B. Lan 188 (PE); Qiaojia (巧家), Ducloux 5669 (K, P); Zhanyi (沾益), Y. H. Li 127 (PE); Mile (弥勒), Ducloux 5229 (P); Guangnan (广南), C. W. Wang 88171 (PE); Mengzi (蒙自), Henry 9835A (K, GH, LE), 9835, 9835B (K), Hancock 551 (K).

9 深裂铁线莲

Clematis tripartita W. T. Wang in Acta Phytotax. Sin. 38(6): 500, fig. 2: 3~4. 2000. TYPE: China. Xizang (西藏), Nyalam (聂拉木), 4000 m, 1990-06-09, Sino-Japan. Exped. T450 (holotype, PE!); same locality, 3000 m, 1990-06-06, Sino-Japan. Exped. T325 (paratype, PE!). Nepal. Lantang Valley, 3780 m, 1965-06-25, Schilling, Saywo & Bista 400 (paratype, K!).

Woody vine. Branches 1.8~3 mm in diam., shallowly 6~10-sulcate, glabrous. Leaves ternate; leaflets thickly papery or coriaceous, terminal ones broad-rhombic, 6~15 mm × 6~14 mm, at apex acute, at base broadly cuneate, nearly to base 3-parted, lobes rhombic, 3-lobulate, lateral leaflets smaller, obliquely ovate, unequally 2~3-lobulate, lobes usually 1~2-denticulate, on both surfaces appressed-puberulous, basal veins abaxially nearly flat; petioles 1~1.8 cm long, puberulous. Flowers 1~6 with about 2 pairs of leaves arising from an axillary bud of old branch, 2~2.7 cm in diam; pedicels slender, 2.8~4 cm long, densely puberulous. Sepals 4, white, obovate-oblong or oblong, 11~15 mm × 4~6 mm, at apex rounded or obtuse, often mucronate, inside glabrous, outside appressed-puberulous. Stamens 4~7 mm long glabrous; anthers narrow-oblong or sublinear, 2~2.2 mm long, at apex obtuse. Ovaries pubescent; styles ca. 5 mm long, densely villous, at apex circinate recurved. Fl. Jun.

China (S. Xizang). Nepal. On slopes, at moraine edges, or on Berberis bushes; 3000~4000 m.

10 宁静山铁线莲 Fig. 8: 3~4

Clematis ningjingshanica W. T. Wang in Acta Phytotax. Sin. 39(4): 310, fig. 1: 4~6. 2001. TYPE: China. Xizang (西藏), Ningjingshan (宁静山), Yanjing (盐井), 1961-06-07, P. K. Hsiao *et al.* 1128 (holotype, PE!).

Woody vine. Branches subterete, not sulcate, smooth, only on nodes sparsely puberulous, elsewhere glabrous, minutely lineate; bud scales coriaceous, triangular, 4~5 mm long. Leaves ternate; leaflets coriaceous, terminal ones petiolulate, rhombic-ovate, ca. 1.4 cm × 1.2 cm, at apex acute, at base broadly cuneate, 3-parted, central lobe narrow-rhombic, narrowly 3-lobulate, lateral lobes obliquely narrow-oblong, 1-denticulate, adaxially glabrous, abaxially on midrib pilose, lateral leaflets smaller, subsessile, obliquely narrow-ovate, ca. 12 mm × 8 mm, 3-lobed, at margin entire, basal veins nearly flat; petioles 1~1.3 cm long, sparsely pilose. Flowers 1~3 with 1~2 pairs of leaves arising from an axillary bud of old branch, 2.7~3.2 cm in diam.; pedicels 2~3 cm long, puberulous. Sepals 4, purple-red, obovate or narrow-obovate, rarely elliptic, 1.3~1.7 cm × 0.8~1.3 cm, at apex rounded, inside glabrous, outside sparsely appressed-puberulous, sometimes on central part with some longer hairs. Stamens 6~11 mm long, glabrous; anthers linear, 2~2.8 mm long, at apex obtuse. Ovaries glabrous; styles ca. 7 mm long, densely villous. Fl. Jun.

China (E Xizang: Mt. Ningjingshan).

Ser. 2 **Tongluenses** W. T. Wang in Acta Phytotax. Sin. 38(6): 501. 2000. TYPE: *C. tongluensis* (Bruhl) Tamura.

Sepals long elliptic, oblong, lanceolate, or oblanceolate, at apex acute, acuminate, or attenuate. Anthers usually linear.

6 species. Distributed in Bangladesh, Bhutan, China (SW Sichuan, SE Xizang, SE Yunnan), NE India, N Myanmar, E Nepal, Sikkim.

11 *Clematis wallichii* W. T. Wang in Acta Phytotax. Sin. 39(1): 2, fig. 1: 1 ~ 2. 2001. TYPE: India. Kumaon, Wallich 4681B (holotype, K!; isotype, BM!). — *C. montana* DC. ssp. *normalis* Kuntze var. *edentata* Kuntze in Verh. Bot. Ver. Brand. 26: 141. 1885, non *C. edentata* Baker, 1884. TYPE: Himalaya, Wallich s. n. (holotype, B, not seen).

Fig. 4: 1 ~ 2

Woody vine. Branches subterete, indistinctly longitudinally striate, glabrous. Leaves ternate; leaflets papery, terminal ones oblong or lanceolate-oblong, (2 ~) 3.4 ~ 4.2 cm × (0.7 ~) 1.1 ~ 1.3 cm, at apex acuminate or attenuate, at base cuneate, at margin entire or 1-denticulate on each side, lateral leaflets smaller, narrow-ovate, lanceolate, or elliptic, (1.5 ~) 2 ~ 3 cm × (0.6 ~) 0.9 ~ 1.2 cm, adaxially subglabrous, abaxially on nearly flat basal veins sparsely puberulous, on margin ciliolate; petioles slender, 0.5 ~ 5 cm long, very sparsely puberulous. Flowers ca. 2 with about 3 pairs of leaves arising from an axillary bud of old branch, ca. 4 cm in diam.; pedicels 10.6 ~ 11 cm long, subglabrous. Sepals 4, oblanceolate or obovate-oblong, 2.1 ~ 2.2 cm × 0.6 ~ 0.8 cm, at apex acute, mucronate, inside glabrous, outside along margin densely appressed-puberulous. Stamens 6 ~ 9 mm long, glabrous; anthers narrow-oblong or sublinear, 2.8 ~ 3.8 mm long, at apex obtuse. Ovaries glabrous; styles ca. 7 mm long, densely villous. Achenes compressed, orbicular-ovate, ca. 3 mm × 3 mm, glabrous; persistent styles ca. 2 cm long, plumose. Fl. May.

N India. W Nepal. In montane regions; ca. 2300 m.

Additional specimens examined. **India**. Kumaon: Nynsee Tal, Thomson 550 (BM).

Nepal. Bauli, Dobremez 2048 (BM).

12 *Clematis manipurensis* (Bruhl) W. T. Wang in Acta Phytotax. Sin. 38(6): 501. 2000. — *C. montana* DC. var. *manipurensis* Bruhl in Ann. Bot. Gard. Calc. 5(2): 74, pl. 103, fig. 3. 1896. — *C. montana* ssp. *normalis* Kuntze var. *manipurensis* Bruhl ex Gupta in Bull. Nat. Bot. Gard. Lucknow 80: pl. 36. 1963. — *C. montana* ssp. *montana* var. *manipurensis* Bruhl ex Kapoor in Bull. Nat. Bot. Gard. Lucknow 124: 47, cum descr. ampla. 1966; Rau in Sharma et al. Fl. Ind. 1: 71. 1993; M. Johnson, Clematis 401. 1997; Grey-Wils. Clematis 85. 2000. TYPE: India. Manipur, Watt 6439 (isosyntypes, E!, P!); Naga Hills, Colomb s. n. (syntype, not seen).

12a Var. *manipurensis* Fig. 9: 1 ~ 2

Woody vine. Branches indistinctly shallowly sulcate, glabrous. Leaves ternate; leaflets papery, ovate, rhombic-ovate, subelliptic, or narrow-obovate, 2 ~ 8 cm × 1 ~ 4 cm, at apex acuminate or acute, at base broadly cuneate or subrounded, at margin dentate, 2 ~ 3-lobulate or 2 ~ 3-lobed, or undivided, on both surfaces sparsely pubescent, usually more densely on veins, basal veins abaxially nearly flat; petioles 1.5 ~ 8 cm long. Flowers usually 1 ~ 3 with about 2 pairs of leaves arising from an axillary bud of old branch or the top of an abbreviated branch, 3.8 ~ 5 cm in diam.; pedicels 6 ~ 14 cm long, pubescent. Sepals 4, narrowly elliptic-oblong, 1.8 ~ 3.5 cm × 0.5 ~ 1.1 cm, at apex attenuate, inside glabrous except the puberulous tip, outside densely



Fig 9 1,2 *Clematis manipurens* (Bruhl) W. T. Wang var. *manipurens* 1. Flowering branch; 2. Stamen (from watt 6439). 3,4. *C. tongluensis* (Bruhl) Tamura var. *tongluensis* 3. Flowering branch; 4. Stamen (from Anderson 336). 5,6. *C. khasiana* (Bruhl) W. T. Wang 5. Flowering branch; 6. Stamen. (from Clarke 43796A)

appressed-pubescent or puberulous and along margin velutinous. Stamens 7 ~ 10 mm long, glabrous; anthers linear, 2.5 ~ 3 mm long, at apex obtuse or indistinctly minutely apiculate. Achenes compressed, broadly ovate, ca. 4 mm × 3 mm, nearly glabrous; persistent styles up to 3 cm long, plumose. Fl. Apr. – May.

NE India (Manipur, Naga land), N Myanmar. In thickets; 2134 ~ 3000 m.

Additional specimens examined. **India**. Manipur, Watt 6890 (P).

Myanmar. Seingku, F. Kingdon Ward 6837 (K).

12b Var. *lasioclada* W. T. Wang in Acta Phytotax. Sin. 38 (6): 503. 2000. TYPE: Bhutan. Cheudebi, 1937-05-12, Ludlow & Sherriff 3027 (holotype, BM!).

Branches densely appressed-puberulous.

C Bhutan. Upon shrubs on open hillside; 2200 m.

13 *Clematis khasiana* (Bruhl) W. T. Wang in Acta Phytotax. Sin. 38(6): 503, fig. 1; 5 ~ 6. 2000. — *C. montana* DC. var. *khasiana* Bruhl in Ann. Bot. Gard. Calc. 5(2): 74, pl. 103, fig. 2. 1896. — *C. montana* ssp. *sinchugica* Kuntze var. *khasiana* (Bruhl) Gupta in Bull. Nat. Bot. Gard. Lucknow 80: pl. 39. 1963. — *C. tongluensis* (Bruhl) Tamura var. *khasiana* (Bruhl) Kapoor in Bull. Nat. Bot. Gard. Lucknow 124: 75, cum descr. ampla. 1966; Rau in Sharma *et al.* Fl. Ind. 1: 79. 1993; M. Johnson, *Clematis* 405. 1997; Grey-Wils. *Clematis* 81. 2000. TYPE: India. 'Khasia, Herb. Calc.', no collector's name and number of the type specimen stated, not seen. Fig. 9: 5 ~ 6

Woody vine. Branches terete, very shallowly 8-sulcate, sparsely puberulous, glabrescent. Leaves ternate; leaflets coriaceous or subcoriaceous, broadly ovate, ovate, or elliptic, 1.3 ~ 5.5 cm × 0.5 ~ 3.5 cm, at apex acute or acuminate, at base rounded or broadly cuneate, at margin few-dentate, undivided or 2 ~ 3-lobulate, on both surfaces on veins sparsely puberulous, basal veins abaxially prominent; petioles 1.3 ~ 4.2 cm long, sparsely puberulous. Flowers singularly arising from leaf axils of hornotinous branch; pedicels 5 ~ 14.2 cm long, puberulous. Sepals 4, white, narrowly elliptic-oblong or obovate-oblong, 2.6 ~ 3.5 cm × 1 ~ 1.7 cm, at apex acute, inside glabrous, outside sparsely puberulous, along margin velutinous. Stamens 6 ~ 10 mm long, glabrous; anthers linear, 3.2 ~ 4 mm long, at apex minutely apiculate. Ovaries pubescent; styles ca. 7 mm long, densely villous. Achenes compressed, broad-ovate or obovate, 4 ~ 5 mm × 2 mm, pubescent; persistent styles ca. 3 cm long, plumose. Fl. Apr. – May.

India (Assam: Khasi & Jaintia Hills). In montane regions; 1825 m.

Specimens examined. **India**. Assam, 1893-05, King's collector (G).

Khasia. J. D. Hooker & Thomson s. n. (K), Clarke 43796A (BM).

14 糙毛铁线莲 Fig. 5: 1 ~ 2

Clematis laxistrigosa (W. T. Wang & M. C. Chang) W. T. Wang in Fl. China 6: 345. 2001. — *C. chrysocoma* Franch. var. *laxistrigosa* W. T. Wang & M. C. Chang in Acta Bot. Yunnan. 15: 352. 1993; Grey-Wils. *Clematis* 78. 2000. TYPE: China. Sichuan (四川), Hanyuan (汉源), 1939-09-08, T. P. Wang 9614 (holotype, PE!); same locality, Xianglingshan (祥岭山), T. P. Wang 9551 (paratype, PE!); same locality, W. P. Fang 9006 (paratype, PE!); Ganluo (甘洛), Liangshan Exped. 59-4544 (paratype, PE!).

C. chrysocoma Franch. var. *glabrescens* auct. non Comb.: M. C. Chang in Fl. Reip. Pop. Sin. 28: 220. 1980.

Woody vine. Branches subterete, shallowly 8-sulcate, puberulous. Leaves ternate; leaflets

chartaceous, rhombic, narrowly rhombic, or ovate, rarely long elliptic, 1.5 ~ 4.8 cm × 1 ~ 3.5 cm, at apex acute or shortly acuminate, at base broadly cuneate or subrounded, at margin above the middle few-dentate, seldom entire, adaxially sparsely pubescent, abaxially strigose, basal veins abaxially slightly prominent; petioles 2.2 ~ 4 cm long. Flowers singularly or in pair arising from leaf axils of hornotinous branch, 5 ~ 5.6 cm in diam.; pedicels 5.8 ~ 9.5 cm long, appressed-puberulous. Sepals 4, white, narrow-elliptic, obovate-oblong, or narrow-obovate, (2 ~) 2.6 ~ 3 cm × 1 ~ 1.3 cm, at apex acute or shortly acuminate, inside glabrous, outside on basal veins appressed-puberulous and along margin velutinous. Stamens 6 ~ 8.5 mm long, glabrous; anthers linear, 3.5 ~ 3.8 mm long, at apex obtuse. Ovaries densely puberulous; styles ca. 6 mm long, densely villous. Achenes compressed, ovate or broadly ovate, 2 ~ 2.5 mm × 2 ~ 2.2 mm, puberulous; persistent styles 9 ~ 11 mm long, plumose. Fl. Aug. – Sept.

China (SW Sichuan). On slopes, by streams, or scrambling on small trees; 1170 ~ 2800 m.

15 *Clematis tongluensis* (Bruhl) Tamura in Acta Phytotax. Geobot. 19 (2 ~ 3): 77. 1956; Kapoor in Bull. Nat. Bot. Gard. Lucknow 124: 73. 1966; Naithani, Flow. Pl. Ind. Nepal & Bhutan 9. 1991; Rau in Sharma *et al.* Fl. Ind. 1: 78. 1993; M. Johnson, *Clematis* 404. 1997; Grey-Wils. *Clematis* 80, fig. 40. 2000. — *C. montana* DC. var. *tongluensis* Bruhl in Ann. Bot. Gard. Calc. 5 (2): 74, pl. 103, fig. 11. 1896. SYNTYPES: Sikkim. Tonglu, Thomson s. n. (not seen), Gamble s. n. (not seen), Kings collector s. n. (not seen); Rungbul, King's collector s. n. (not seen).

C. montana DC. ssp. *sinchungica* Kuntze in Verh. Bot. Ver. Brand. 26: 141. 1885; Gupta in Bull. Nat. Bot. Gard. Lucknow 80: pl. 38. 1963. SYNTYPES: Sikkim. Sinchung, Anderson (B, not seen); J. D. Hooker s. n. (not seen).

? *C. montana* var. *intermedia* Bruhl in Ann. Bot. Gard. Calc. 5(2): 74. 1896. — *C. montana* ssp. *montana* var. *intermedia* Bruhl ex Kapoor in Bull. Nat. Bot. Gard. Lucknow 124: 51. 1966. TYPE: Sikkim. Tonglu, King's collector (holotype, not seen).

15a Var. *tongluensis* Fig. 9: 3 ~ 4

Woody vine. Branches shallowly 8 ~ 10-sulcate, sparsely puberulous, glabrescent. Leaves ternate; leaflets subcoriaceous or thickly papery, ovate or rhombic-ovate, 3 ~ 8 (~ 9) cm × 1.6 ~ 4.2 (~ 7) cm, at apex acuminate or long acuminate, at base broadly cuneate or rounded, at margin dentate, 2 ~ 3-lobulate or undivided, on both surfaces sparsely appressed-puberulous, basal veins abaxially slightly prominent; petioles 3 ~ 7.5 cm long. Flowers either singularly arising from leaf axils of hornotinous branch or 1 ~ 2 with about 2 pairs of leaves arising from an axillary bud of old branch, 8 ~ 12 cm in diam.; pedicels 8 ~ 20 cm long, sparsely puberulous or subglabrous. Sepals 4, white, narrowly elliptic-oblong or oblong-lanceolate, 3.8 ~ 6 cm × 0.8 ~ 2.1 cm, at apex attenuate or acuminate, inside appressed-puberulous, outside glabrous or very sparsely puberulous and along margin velutinous. Stamens 8 ~ 16 mm long, glabrous; anthers linear, 3 ~ 4.2 mm long, at apex obtuse or minutely apiculate. Ovaries pubescent; styles ca. 9 mm long, densely brownish-villous. Achenes compressed, broadly ovate, ca. 3 mm × 2.5 mm, above appressed-pubescent; persistent styles 3 ~ 4.8 cm long, plumose. Fl. Jun. – Sept.

Bangladesh. Bhutan. E India. NE Nepal. Sikkim. In thickets or in mixed forests; 2200 ~ 3300 m.

Specimens examined. **Bangladesh.** Rechi La, Haines 957 (K).

Bhutan. Yato La, Ludlow & Sherrieff 3467 (BM); Tang Chu, Ludlow & Sherrieff 3200 (BM);

Bumthang, Ludlow, Sherriff & Hicks 16967 (BM); Shimitang, Ludlow, Sherriff & Hicks 19293 (BM); Mongar, Grierson & Long 1906 (GH, K); Trengsa, Gould 620 (K).

India. Delei Valley, F. Kingdon Ward 8329 (K).

Nepal. Bhalu-Khop, Keke 86 (K); Ghundza, Wyss-Dunant 1071 (G); Maghang Khola, Stainton 809 (BM); Milke Danda, Beer *et al.* 10132 (BM); Zamopokhari, Shrestha (BM).

Sikkim. Tonglloo, Anderson 335 (K, P), Gamble 8460 (K); Choka, Starling *et al.* 357 (K); Yakla, Clarke 9848A (K); without precise locality, Treutler s. n. (LF).

15b 毛萼铁线莲

Var. **mollisepala** W. T. Wang in Acta Phytotax. Sin. 38(6): 503. 2000. TYPE: China. Xizang (西藏), Nangxian (朗县), Migyitun, 1936-06-10, Ludlow & Sherriff 2103 (holotype, BM!).

Sepals outside densely appressed-puberulous.

China (SE Xizang). In thickets; 2800 m.

16 文山铁线莲 Fig. 8: 5~6

Clematis wenshanensis W. T. Wang in Acta Phytotax. Sin. 39(4): 313, fig. 2: 3~4. 2001. TYPE: China. Yunnan (云南), Wenshan (文山), Laojunshan (老君山), village Leshichong (乐诗冲乡), 2650 m. 1993-05-07, Y. M. Shui 2714 (holotype, PE!); same locality, Xiaoyantou (啸岩头), 2430 m, 1993-03-31, Y. M. Shui 1825 (paratype, PE!).

Woody vine. Branches subterete, indistinctly 10-sulcate, glabrous. Leaves ternate; leaflets papery, ovate or narrow-ovate, 3.5~7 cm × 1.8~3 cm, at apex acuminate or long acuminate, at base rounded, at margin dentate, undivided or sometimes the lateral leaflets 2-lobulate, adaxially on veins very sparsely puberulous, abaxially sparsely appressed-puberulous, basal veins nearly flat; petioles 2.4~4 cm long. Flowers usually 2 together with 2 pairs of leaves arising from an axillary bud of old branch, 6.5~7 cm in diam.; pedicels 9~11 cm long, very sparsely puberulous. Sepals 4, white, ovate-oblong, 3.3~3.7 cm × 1.1~1.6 cm, at apex attenuate, shortly cuspidate, inside glabrous, outside subglabrous, on the very margin velutinous. Stamens 7~14 mm long, glabrous; anthers linear or narrow-oblong, 2.5~3 mm long, at apex obtuse. Ovaries glabrous; styles 8~11 mm long, densely villous. Fl. Apr. - May.

China (SE Yunnan). Scrambling on forests or in bamboo thickets; 2430~2650 m.

In the sect. *Cheiroopsis*, *C. wenshanensis* is unique in its sepals with narrow strip of velutinous indumentum on the very margin of the abaxial surface. In other species of that section, the sepals are densely or sparsely puberulous or glabrous on the margin of abaxial surface, lacking a narrow strip of velutinous indumentum.

Subsect. 5. **Hastatae** (W. T. Wang) W. T. Wang in Acta Phytotax. Sin. 38(6): 503. 2000. — Sect. *Clematis* subsect. *Rectae* Prantl ser. *Hastatae* W. T. Wang in Acta Phytotax. Sin. 36(2): 159. 1998. TYPE: *C. hastata* Finet & Gagnep.

Woody vines. Branches glabrous. Leaves pinnate, rarely ternate, glabrous. Flowers 2~7 alone or together with several leaves arising from an axillary bud of old branch, pedicellate only. Sepals 4 or 6, valvate, spreading, white, oblanceolate or obovate-oblong, outside puberulous, on the very margin glabrous. Anthers narrow-oblong or linear, at apex obtuse or minutely apiculate.

2 species, endemic in Central China.

17 戟状铁线莲 Fig. 10: 6~7



Fig. 10 1~3. *Clematis montana* Buch. Ham. var. *brevifolia* Kuntze 1. Flowering branch; 2. Stamen 3. Achene (from J. D. Hooker s. n.). 4, 5. *C. glabrifolia* K. Sun & M. S. Yan 4. Flowering branch; 5. Stamen (from X. D. Wang & K. Sun 251). 6, 7. *C. hastata* Finet & Gagnep. 6. Flowering branch; 7. Stamen. (from Rock 12037)

Clematis hastata Finet & Gagnep. in Bull. Soc. Bot. France 50: 523, t. 16. 1903; Rehd. in J. Am. Arb. 9: 40. 1928; Hand. Mazz. in Acta Hort. Gotob. 13: 209. 1939; M. Johnson, Clematis 637. 1997; Grey-Wils. Clematis 106. 2000. TYPE: China. Sichuan (四川), Chengkou (城口), 1400 m, 1892-04-02, Farges 1155 (holotype, P!).

Woody vine. Branches shallowly 8-sulcate, glabrous; bud scales narrow-triangular or long ovate, 6~8 mm long, above sparsely puberulous. Leaves pinnate, 5~7-foliolate, seldom ternate, glabrous; leaflets subcoriaceous, those of lower pair of leaves narrow-ovate, 4.5~5.5 cm × 3.8~4.5 cm, at apex acute or slightly obtuse, at base subcordate, at margin entire, 3-parted or unequally 2-parted, those of upper pair triangular-linear or narrow-triangular, 2.5~5 cm × 0.9~1.4 cm, undivided, midrib abaxially slightly prominent; petioles 2~3.5 cm long. Flowers 2~7 arising from an axillary bud of old branch, 2.5~4 cm in diam.; pedicels 4~11.5 cm long, pubescent. Sepals 4, white, oblanceolate or narrow-oblanceolate, 1~2.2 cm × 0.4~1 cm, at apex obtuse or rounded, inside glabrous, outside densely appressed-puberulous, on margin glabrous. Stamens ca. 8 mm long, glabrous; anthers narrow-oblong, ca. 2 mm long, at apex obtuse or obscurely minutely apiculate. Ovaries pubescent; styles ca. 7 mm long, densely villous. Fl. Apr.

China (N Sichuan). On slopes in Valley.

Additional specimens examined. **China. Sichuan** (四川): Qingchuan (青川), along Fuyang River (涪江), 1925-04, Rock 12037 (GH, P).

18 光叶铁线莲 Fig. 10: 4~5

Clematis glabrifolia K. Sun & M. S. Yan in Bull. Bot. Res. Harbin 12(4): 327, pl. 3, fig. 1~6. 1992; W. T. Wang in Acta Phytotax. Sin. 26(2): 162. 1998; Grey-Wils. Clematis 79. 2000. TYPE: China. Gansu (甘肃), Wenxian (文县), between Bikou (碧口) and Fanba (范坝), 1988-03-27, X. D. Wang & K. Sun 251 (holotype, NWNU!; isotype, PE!).

Woody vine. Branches shallowly 8-sulcate, glabrous. Leaves pinnate, 5-foliolate or ternate, glabrous; leaflets chartaceous, elliptic, ovate, or triangular-ovate, 2~5 cm × 1~3 cm, at apex obtuse, at base subcordate or rounded, at margin entire, basal veins on both surfaces flat; petioles 2~5 cm long. Flowers 2~7 with several small leaves arising from an axillary bud of old branch, 3.6~4 cm in diam.; pedicels 6.5~7.5 cm long, densely pubescent. Sepals 6, white, obovate-oblong, 1.8~2 cm × 0.8~1 cm, at apex rounded, often emarginate, inside glabrous, outside densely appressed-puberulous. Stamens ca. 10 mm long, glabrous; anthers narrow-oblong or linear, 2~2.6 mm long, at apex obtuse. Ovaries pubescent; styles ca. 6 mm long, densely villous. Fl. Mar.

China (S Gansu). On grassy slopes; 500 m.

Subsect. 6. **Fasciculiflorae** (Tamura) W. T. Wang in Acta Phytotax. Sin. 38(6): 503. 2000. —Sect. *Flammula* subsect. *Rectae* ser. *Fasciculiflorae* Tamura in Acta Phytotax. Geobot. 16(3): 8. 1956. Sect. *Flammula* subsect. *Fasciculiflorae* (Tamura) M. Johnson, Clematis 604. 1997. Sect. *Cheiropsis* subsect. *Montanae* ser. *Fasciculiflorae* W. T. Wang in Acta Phytotax. Sin. 36(2): 162. 1998. —Subgen. *Cheiropsis* sect. *Fasciculiflorae* Grey-Wils. Clematis 94. 2000. TYPE: *C. fasciculiflora* Franch.

Woody vines. Leaves ternate. Flowers 2~4 alone or sometimes together with 2 or several leaves arising from an axillary bud of old branch, pedicellate only. Sepals 4, valvate, white, nearly erect, narrow-obovate or obovate-oblong. Anthers narrow-oblong, at apex obtuse. Achenes lanceolate.

1 species, occurring in SW China, N Myanmar, N Vietnam.

19 滑叶藤

Clematis fasciculiflora Franch. Pl. Delav. 5. 1889; Lév. & Van. in Bull. Acad. Intern. Geogr. Bot. 10: 170. 1902; Finet & Gagnep. in Bull. Soc. Bot. France 50: 523. 1903; Rehd. & Wils. in Sarg. Pl. Wils. 1: 331. 1913; Pei in Sinensia 7: 472. 1936; Hand.-Mazz. Symb. Sin. 7: 321. 1931; et in Acta Hort. Gotob. 13: 212. 1939; Gagnep. Suppl. Fl. Gen. Indo-Chin. 1: 3. 1938; M. C. Chang in Fl. Reip. Pop. Sin. 28: 216, pl. 71. 1980; et in Iconogr. Corm. Sin. Suppl. 1: 465, fig. 8624. 1982; C. Y. Wu, Ind. Fl. Yunnan. 1: 108. 1984; W. T. Wang in Fl. Guangxi 1: 290. 1991; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 528. 1993; M. Johnson, Klematis 632. 1997; Ho, Ill. Fl. Vietnam 1: 316, fig. 1272. 1999; Grey-Wils. Clematis 94. 2000; W. T. Wang in Fl. Yunnan. 11: 232. 2000. — *C. montana* DC. var. *fasciculiflora* (Franch.) Bruhl in Ann. Bot. Gard. Calc. 5(2): 73. 1896. TYPE: China, Yunnan (云南), Eryuan (洱源), Mo-so-sy, 1885-03-16, Delavay 2218 (lectotype, designated here, P!; isolectotypes, G!, K!); Eryuan, Hee-chan-men, 1886-03-22, Delavay s. n. (syntype, P!); Heqing (鹤庆), Ta-pin-tze, 1887-01-20 & 03-07, Delavay s. n. (syntype, P!; isosyntypes, K!, LE!).

19a Var. *fasciculiflora* Fig. 11: 6~9

Woody vine. Branches not sulcate or very shallowly 4~8-sulcate, sparsely puberulous, glabrescent. Leaves ternate; leaflets subcoriaceous, narrow-ovate, lanceolate, or long elliptic, 2~8.5 (~11) cm × 0.8~3.5 (~5) cm, at apex acuminate, at base broadly cuneate or rounded, at margin entire, adaxially glabrous, abaxially sparsely puberulous or glabrous, basal veins nearly flat; petioles 2~3 (~6) cm long. Flowers usually 2~4 alone, sometimes together with 2 or several leaves arising from an axillary bud of old branch, 1.4~1.7 cm in diam.; pedicels 0.5~2.4 cm long, usually yellowish-velutinous. Sepals 4, white, obovate-oblong or suboblong, 1.2~2 (~2.8) cm × 0.5~0.8 (~1.4) cm, at apex obtuse, inside glabrous, outside yellowish-velutinous. Stamens 9~14 mm long, glabrous; anthers narrow-oblong, 3~3.2 mm long, at apex obtuse. Ovaries subglabrous or pubescent; styles 9~12 mm long, densely villous. Achenes lanceolate, 5~5.8 mm × 1.5~3 mm, pilose or subglabrous; persistent styles 1~1.6 cm long, plumose. Fl. Dec. to Mar. of the next year.

China (W Guangxi, SW Guizhou, SW Sichuan, Yunnan). N Myanmar. N Vietnam. By streams, in bushes or forests; 1500~2000 m.

Additional specimens examined. **China. Guangxi** (广西): Napo (那坡), H. N. Qin *et al.* 788 (PE). **Guizhou** (贵州): Gan-chouen, Cavalerie 3788 (G, GH, P); Kau-pey, Esquirol 2528 (P). **Sichuan** (四川): Luding (泸定), X. L. Jiang 34527, K. C. Kuan, W. T. Wang *et al.* 1711 (PE); without precise locality, E. H. Wilson 3127 (GH, K, P). **Yunnan** (云南): Zhenkang (镇康), C. W. Wang 72501, 72547 (GH, PE); Mianning (缅宁), T. T. Yu 18199 (PE); Lushui (泸水), H. T. Tsai 56739 (GH, PE); Dali (大理), T. N. Liou 17915, 23115 (PE); Lijiang (丽江), Rock 3265, 8983 (US), C. W. Wang 65087, K. M. Feng 21600 (PE), T. T. Yu 14898 (GH, PE); Zhongdian (中甸), Forrest 179 (K); Eryuan (洱源), Delavay s. n. (IE); Binchuan (宾川), T. N. Liou 22246 (PE); Luquan (禄劝), P. I. Mao 1488, W. Q. Yin 2 (PE); Lufeng (禄丰), H. T. Tsai 53651 (GH, PE); Kunming (昆明),

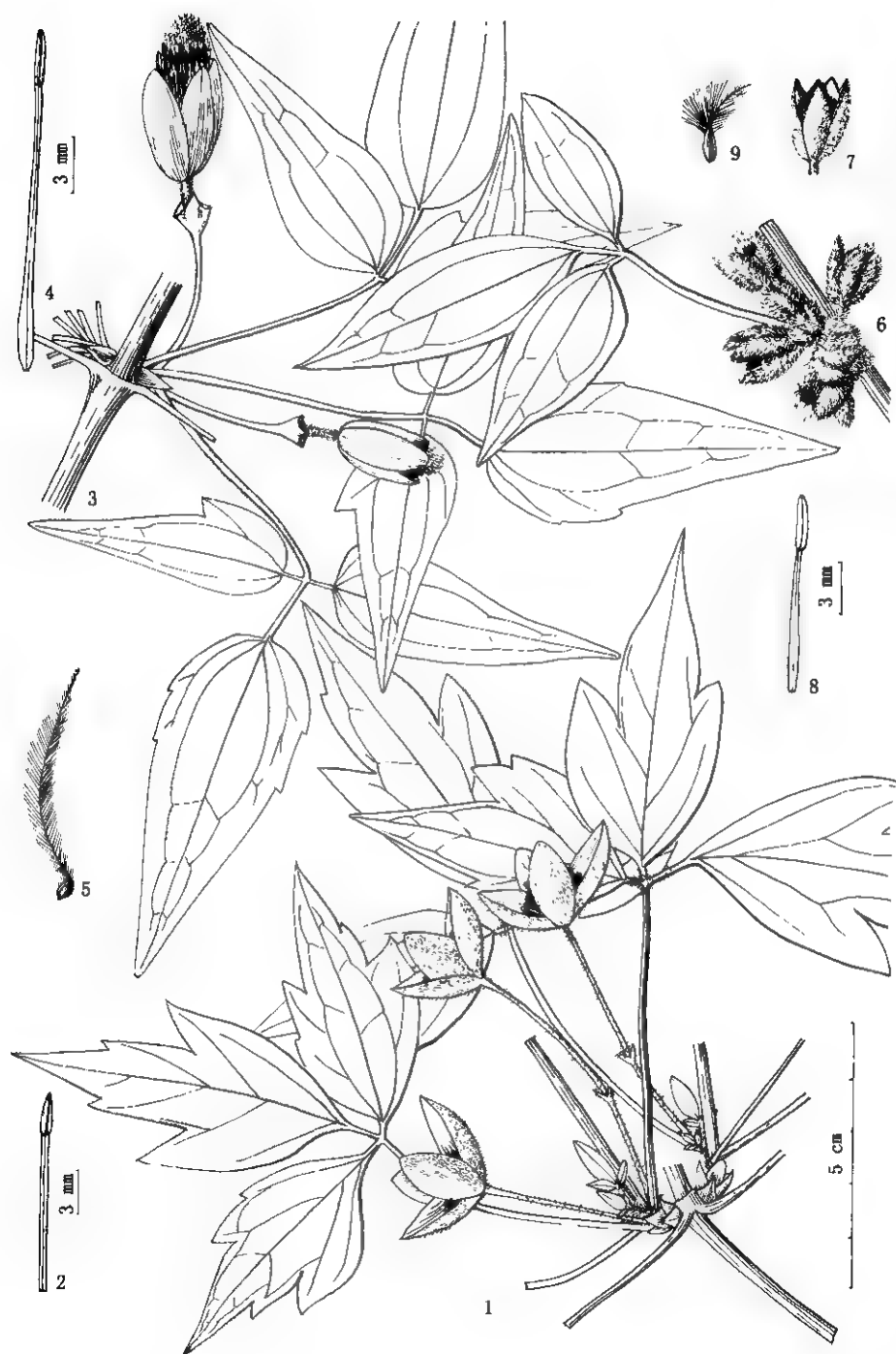


Fig. 11 1, 2. *Clematis williamsii* Gray 1. Flowering branch; 2. Stamen (from Savatier s. n.). 3-5. *C. napaulensis* DC 3. Flowering branch; 4. Stamen (from Forrest 12116); 5. Achene (from C. W. Wang 87894). 6-9. *C. fasciculiflora* Franch. var. *fasciculiflora* 6. Flowering branch; 7. Flower; 8. Stamen (from Kunming station Exped. 2062); 9. Achene. (from K. M. Feng 21600)

Handel-Mazzetti 8605 (GH, US), Schneider 56, 160 (G, GH, P), Bodinier & Ducloux 51 (GH, P), C. W. Wang 62673 (GH, PE), T. N. Liou 15037, 15056, Y. Tsiang 13029 (PE); Songming (嵩明), B. Y. Qiu 54187 (PE); Qiaojia (巧家), Ducloux 6175 (GH, P), Maire 207 (K, P); Huize (会泽), P. Y. Mao 2062 (PE); Jianshui (建水), T. N. Liou 18367 (PE); Mengzi (蒙自), Henry 10114 (K, PE, US), 13627, Hancock 266 (K); Yuanjiang (元江), Henry 11575 (GH); Simao (思茅), Henry 10114A (GH).

Myanmar. Kang-fang, F. Kingdon Ward 183 (GH, K).

Vietnam. Tonkin: Chapa, Petelot 3247 (P, US), 6057, 6660 (P).

19b 狭叶滑叶藤

Var. **angustifolia** Comb. in Not. R. Bot. Gard. Edinb. 18: 236. 1934; Hand.-Mazz. in Acta Hort. Gotob. 13: 212. 1939; M. C. Chang in Fl. Reip. Pop. Sin. 28: 216. 1980; C. Y. Wu, Ind. Fl. Yunnan. 1: 108. 1984; L. Q. Li in Vasc. Pl. Hengduan Mount. 1: 528. 1993; M. Johnson, Klematis 633. 1997; W. T. Wang in Fl. Yunnan. 11: 232. 2000. TYPE: China. Yunnan (云南), in the northwest of the Yangtze bend, Lat. 27°045'N, 1913-07, Forrest 10573 (holotype, E!; isotype, GH!).

Leaflets linear-lanceolate, 3 ~ 6 (~ 10) mm broad.

China (NW Yunnan).

Subsect. 7. **Williamsianae** M. Johnson, Klematis 366, 383. 1997; W. T. Wang in Acta Phytotax. Sin. 38(6): 504. 2000. —Subgen. *Cheirosia* sect. *Cheirosia* subsect. *Williamsianae* Grey-Wils. Clematis 93. 2000. TYPE: *C. williamsii* Gray.

Woody vines. Leaves ternate. Flowers in pedunculate, 2-bracteate, 1-flowered cymes with leaves arising from axillary buds of old branch or singularly arising from leaf axils of hornotinous branch. Sepals 4, imbricate, ascending, broad-ovate, at apex acute. Anthers narrow-oblong, at apex obtuse.

1 species, endemic to Japan.

20 Clematis williamsii Gray in Perry's Jap. Exped. 2: 306. 1856; Miq. Prol. Fl. Jap. 3: 2. 1867; Franch. & Sav. Enum. Pl. Jap. 1: 3. 1875; Maxim. in Bull. Acad. Sci. St. Petersburg. 22: 223. 1877; Makino in Bot. Mag. Tokyo 8: 332. 1897; Finet & Gagnep. in Bull. Soc. Bot. France 50: 526. 1903; Tamura in Sci. Rep. Osaka Univ. 4: 51. 1955; et in Acta Phytotax. Geobot. 16: 80. 1956; Ohwi, Fl. Jap. 442. 1965; Kitam. & Murata, Colour. Ill. Herb. Pl. Jap., rev. ed., 2: 225, pl. 51: 440. 1980; Tamura in Satake *et al.* Wild. Flow. Jap. 2: 72, pl. 70, fig. 1. 1982; M. Johnson, Klematis 385. 1997; Grey-Wils. Clematis 93, fig. 61. 2000. —*C. montana* DC. ssp. *williamsii* (Gray) Kuntze in Verh. Bot. Ver. Brand. 26: 141. 1885; Huth in Bull. Herb. Boiss. 5: 1063. 1897, pro var.; Matsum. Ind. Pl. Jap. 2: 112. 1912, pro var. —*Clematopsis williamsii* (Gray) Tobe in Bot. Mag. Tokyo 93: 135, fig. 1 ~ 8. 1980. TYPE: Japan. Simoda, Williams & Morum s. n. (holotype, GH!). Fig. 11: 1 ~ 2

C. monata DC. ssp. *bissetii* Kuntze in l. c.; Huth in l. c., pro var.; Matsum. l. c., pro var. TYPE: Japan. Susugaya, Oyama, Bisset 1317, 913 (syntypes, BM!).

Woody vine. Old branches indistinctly 6-angulate, glabrate; hornotinous branches shallowly 6-sulcate, pubescent; bud scales triangular, 4 ~ 12 mm long. Leaves ternate; leaflets herbaceous, rhombic, narrow-rhombic, or rhombic-ovate, 3 ~ 8 cm × 1 ~ 3.8 cm, at apex attenuate or acuminate, at base broadly cuneate or rounded, 2 ~ 3-lobed, lobes at margin entire or 1 ~ 2-dentate, adaxially on veins sparsely puberulous, abaxially pubescent, basal veins on both surfaces nearly

flat; petioles up to 6 cm long. Cymes 1-flowered, ca. 2 with 2 leaves arising from an axillary bud of old branch, or singularly arising from leaf axils of hornotinous branch; peduncles 1 ~ 1.8 cm long, pubescent; bracts narrow-oblong, 2 ~ 2.8 mm long, densely pubescent. Flower 2.4 ~ 3 cm in diam.; pedicel 1.4 ~ 3 cm long, pubescent. Sepals 4, white, ascending, broadly elliptic-ovate, 1.5 ~ 2 cm × 0.8 ~ 1.3 cm, at apex acute, inside glabrous, outside slightly densely appressed-pubescent. Stamens 11 ~ 13 mm long, glabrous; anthers narrow-oblong, 2 ~ 2.6 mm long, at apex obtuse. Ovaries pubescent; styles ca. 10 mm long, densely villous. Achenes compressed, ovate, 4 ~ 5 mm long, pubescent; persistent styles 2 ~ 2.5 cm long, plumose. Fl. Apr. – May.

Japan (S Honshu, Shikoku, Kyushu). On sea-side hills.

Additional specimens examined. **Japan.** Fukuoka Pref.: Tagawagun, Tsutsui 29574 (K); Idzu Pref.: Mt. Sanagi Heda-mura, Furuse s. n. (S); Kanagawa Pref.: Jinmuji, Mizushima 17205 (S); Sagami Prov., Hara s. n. (GH); Yokoska, Savatier s. n. (GH), 7, 688 (LE, P).

Subsect. 8. **Cirrhosae** Prantl in Bot. Jahrb. 9: 259. 1888; W. T. Wang in Acta Phytotax. Sin. 38 (6): 504. 2000. LECTOTYPE: *C. cirrhosa* L.

Sect. *Cheiropsis* subsect. *Cheiropsis* M. Johnson, Klematis 365. 1997. — Subgen. *Cheiropsis* sect. *Cheiropsis* subsect. *Cheiropsis* Grey-Wils. Clematis 90. 2000. TYPE: *C. cirrhosa* L.

Woody vines. Leaves simple or ternate. Flowers in pedunculate, involucrate, rarely bibracteate, 1-flowered cymes, with leaves arising from axillary buds of old branch, rarely from leaf axils of hornotinous branch. Sepals 4, valvate, suberect, obovate-oblong or oblong. Anthers oblong or narrow-oblong. Achenes at margin rimmed.

2 species, wide-spread in SW China, the Himalayas, SW Asia, S Europe, and N Africa.

21 Clematis cirrhosa L. Sp. Pl. 1: 766. 1753; Mill. Dict. 300. 1768; Lam. Encycl. 2: 43. 1786; Ait. Hort. Kew. 2: 258. 1789; DC. Syst. 1: 162. 1818; et Prodr. 1: 9. 1824; Moris, Fl. Sardoia 1: 14. 1837; Gren. & Godr. Fl. France 1: 4. 1848, p. p.; Boiss. Fl. Or. 1: 2. 1867; Ball in J. Linn. Soc. Bot. 16: 303. 1877; Mora, Fl. Fun. Penn. Iber. 6: 679. 1878, p. p.; Willk. in Willk. & Lange, Prodr. Fl. Hispan. 3: 952. 1880, p. p.; Arcan. Comp. Fl. Ital. 2. 1882; Tristr. Fau. Fl. Palest. 207. 1884; Kuntze in Verh. Bot. Ver. Brand. 26: 143. 1885; Batt. in Batt. & Trah. Fl. Alger. 3. 1888; Rouy & Fouc. Fl. France 1: 5. 1893; Halacsy, Consp. Fl. Graec. 1: 1. 1901; Briq. Prodr. Fl. Corse 1: 596. 1910, p. p.; Cout. Fl. Portug. 227. 1913; Holm. Stud. Veget. Cyprus 79. 1914; Fiori, Iconogr. Fl. Ital., ed. 2, 189, fig. 1526. 1921; Hayek, Prodr. Fl. Penn. Balcan. 1: 321. 1927; Pamp. Fl. Cirena. 202. 1930; Boul. Fl. Liban et Syrie 6. 1930; Post, Fl. Syria Palest. & Sinai 1: 3. 1932; Rechling. Fl. Aegaea 184. 1943; Kasap. Pl. Jordan 53. 1956; Maire, Fl. Afr. Nord 11: 101. 1964; Tutin, Fl. Europ. 1: 221. 1964; Davis, Fl. Turkey 1: 140. 1965; Zohary, Fl. Palest. 1: 199. 1966; Zangh. Fl. Ital. 1: 154. 1976; Meikle, Fl. Cyprus 1: 36, pl. 2. 1977; Barcelo, Fl. Mallorca 2: 187. 1978; Pott.-Alap. Fl. Tunis. 1: 153. 1979; Pignatti, Fl. Ital. 1: 299. 1982; Rollan, Clav. Fl. Espana 2: 281. 1985; Carva. in Castr. et al. Fl. Iber. 1: 271. 1986, p. p.; Valdes et al. Fl. Vasc. Andaluc. Occ. 1: 119. 1987, p. p.; Turland et al. Fl. Cret. Arcaea 130. 1993; M. Johnson, Klematis 370. 1997; Grey-Wils. Clematis 90, fig. 55-57. 2000.

Atragene cirrhosa (L.) Pers. Synop. Pl. 2: 98. 1807. *Cheiropsis cirrhosa* (L.) Bercht. & Presl, Rostl. i Ranunculac. 11. 1823. — *Cheiropsis elegans* Spach, Hist. Nat. Veg. Phan. 7: 261. 1839. TYPE: S Spain. Baetica, LINN 712-2 (lectotype, not seen; photo, S!).

Clematis cirrhosa & *vulgaris* Moris, Fl. Sardoia 1: 14. 1837.

C. cirrhosa var. *grandiflora* Choul. *Fragm. Fl. Alger. Exsicc.* n. 101. 1858, nom. nud.

C. cirrhosa ssp. *atava* Kuntze in *Verh. Bot. Ver. Brand.* 26: 143. 1885. TYPE: Cyprus. Kotschy 479 (syntypes, G!, LE!, P!, S!).

C. cirrhosa ssp. *normalis* Kuntze in l. c. — *C. cirrhosa* f. *normalis* (Kuntze) Maire, *Fl. Afr. Nord* 11: 103. 1964.

C. cirrhosa ssp. *normalis* var. *scandens* Kuntze f. *gigantiflora* Kuntze in l. c. 44; Maire, *Fl. Afr. Nord* 11: 103. 1964; M. Johnson, *Klematis* 378. 1997, pro var.; Grey-Wils. *Clematis* 92. 2000, pro var. TYPE: Algeria. Choulette s. n. (holotype, BM, not seen).

C. cirrhosa ssp. *normalis* var. *scandens* f. *subdentata* Kuntze et f. *obtusifolia* Kuntze in l. c. TYPE: unknown.

C. calyculata Hort. ex Schneid. *Ill. Handb. Laubh. Suppl.* 2: 909. 1912. TYPE: unknown.

C. cirrhosa var. *typica* Maire in Jahand & Maire, *Cat. Pl. Maroc.* 244. 1932; Pett.-Alap. *Fl. Tunis.* 1: 153. 1979.

C. cirrhosa f. *micrantha* Maire, *Fl. Afr. Nord* 11: 103. 1964; M. Johnson, *Klematis* 378. 1997, pro var.; Grey-Wils. *Clematis* 92. 2000, pro var. TYPE: unknown.

Just as *Clematis flammula* L. of the sect. *Clematis* subsect. *Rectae* Prantl, *C. cirrhosa* is a typical Mediterranean species and greatly variable in leaf and inflorescence morphology. In this revision, 5 varieties of this polytypic species are recognized. For understanding of the relationships among them further study is needed.

21a Var. *cirrhosa* Fig. 12: 1~2

Woody vine. Branches subterete or indistinctly tetragonous, very shallowly 4~10-sulcate, only on nodes sparsely puberulous, elsewhere glabrous. Leaves simple; leaf blades subcoriaceous, coriaceous, or thickly papery, narrow-ovate or ovate, seldom lanceolate, 1.5~5.5 (~8) cm × 0.9~3.4 (~5.5) cm, at apex acute, acuminate, or obtuse, at base truncate, rounded or subcordate, at margin crenate or denticulate, sometimes dentate or entire, undivided, rarely 3-lobed, on both surfaces glabrous or abaxially near base pilose, basal veins slightly prominent or nearly flat; petioles 0.5~2.4 cm long. Cymes 1~2 with 4~8 leaves arising from an axillary bud of old branch, 1-flowered; peduncles 0.8~3 cm long, sparsely puberulous or subglabrous; involucre broadly campanulate, 0.5~1.5 (~2) cm long, outside appressed-puberulous, indistinctly 2-lobed. Flower 2~4 (~7) cm in diam.; pedicel 3~5 mm long, velutinous. Sepals 4, suberect, oblong-obovate or oblong-elliptic, 2~3 (~5) cm × 1~1.4 (~3) cm, at apex rounded, often mucronate, inside glabrous, outside densely appressed-puberulous, on margin glabrous. Stamens 1.5~1.7 cm long; filaments lanceolate-linear; anthers narrow-oblong, 0.8~3.2 mm long, at apex obtuse. Ovaries densely puberulous; styles 1~1.5 cm long, densely villous. Achenes compressed, broadly ovate, broadly elliptic, or subrhombic, 3.5~4.6 cm × 2.5~3.2 mm, pubescent, at margin narrowly rimmed; persistent styles 3~5 cm long, plumose. Fl. Oct. – Apr. of the next year.

SW Asia (Cyprus, Isreal, Jordan, Libanon, Palestine, Syria, Turkey), S Europe (France, Greece, Italy, Malta, Portugal, Spain), N Africa (Algeria, Libya, Morocco, Tunisia). On coastal hills; 50~600 m.

Additional specimens examined. **Cyprus.** Alona, Meikle 4047 (K); Dlioris, Merton 2460 (K); Pano Lefkera, Anderberg *et al.* 39 (S).

Isreal. Rishpon, Zohary *et al.* 427 (G, MO, P); Sharon Plain, Zohary *et al.* 427 (S,

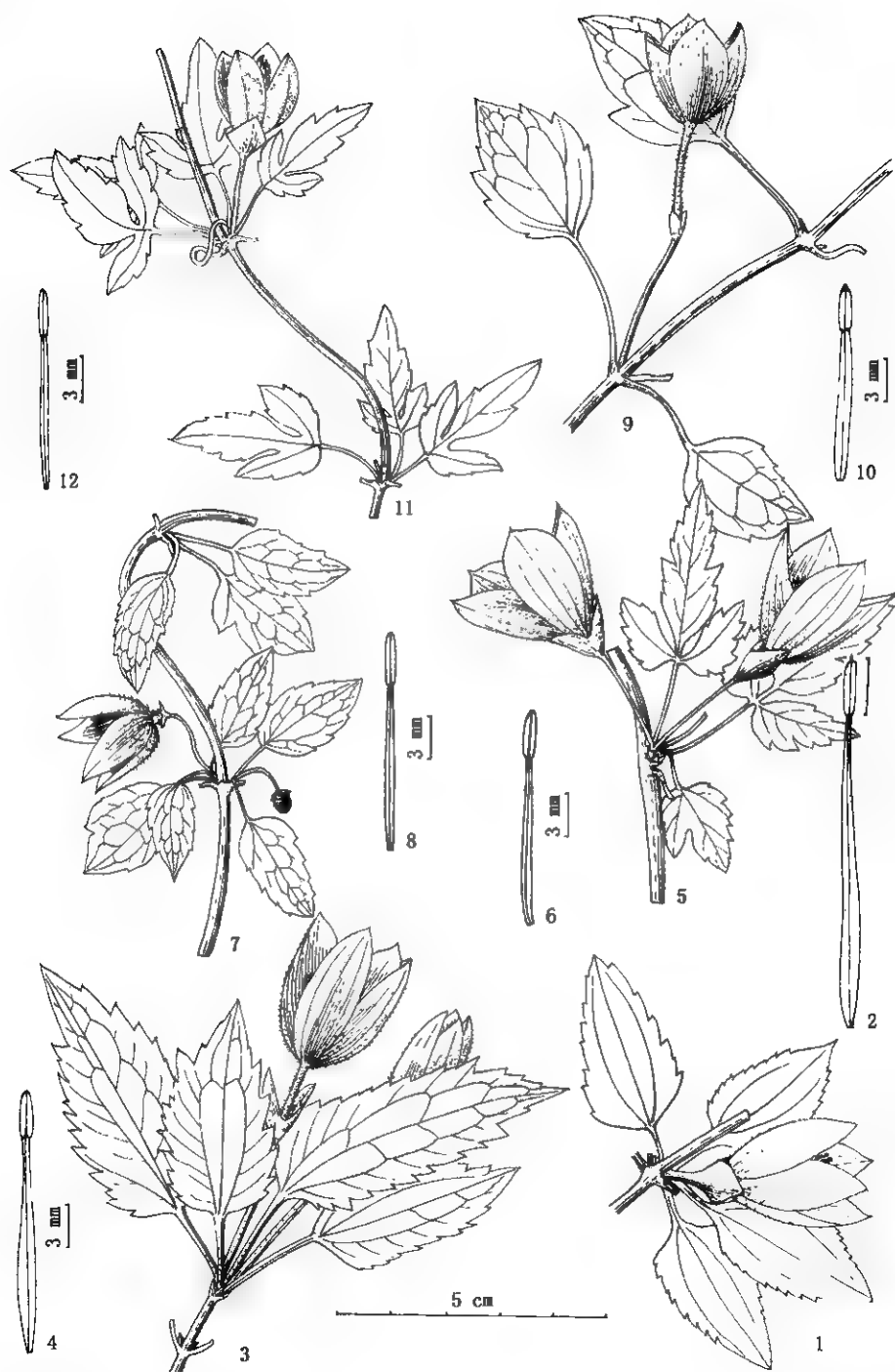


Fig. 12 *Clematis currhosa* L. 1,2. var. *currhosa* 1. Flowering branch; 2. Stamen (from Faure 4). 3,4. var. *barnadevi* Pau 3. Flowering branch; 4. Stamen (from ? Jimenez s. n.). 5,6. var. *balearica* (Rich.) Willk. 5. Flowering branch; 6. Stamen (from Bianor 3616). 7,8. var. *bibracteata* W. T. Wang 7. Flowering branch; 8. Stamen (from Mavromoustakis s. n.). 9,10. var. *pedicellata* DC. 9. Flowering branch; 10. Stamen. 11,12. var. *semitriloba* (Lag.) Batt. 11. Flowering branch; 12. Stamen. (from Stefani s. n.)

UPS).

Jordan. Salt, Al-Esawi 2172, Hiary s. n. (K).

Libanon. Beirut, Helbaek 3 (K), Louis s. n. (P), Postian s. n. (UPS); Beitmer, Peyron 60 (G); Hamat, Gombault 1493 (P).

Palestine. Nablus, Meyers & Dinsmore 8320 (G); Nes Har. Zohary s. n. (S).

Syria. Amanus. Samuelsson 4014 (S); Galilee, Lowne s. n. (K); Haruniji, Haradjian 3583 (G); Rachaya, Berton 290 (P); Shemlau, Robert s. n. (G).

Turkey. Antalya, Taylor 713 (K); Constantinople, Aznavour s. n. (G); Gueuksouyou, Aznavour s. n. (G); Istanbul, Davis & Hedge 26215 (G, K); Izmir, Fleischer s. n. (LE).

France. Corse, Reverchon 395 (LE, S, UPS).

Greece. Aegeen Island, Platt 369 (K); Athenas, Linderberg s. n. (S), Orphanides 3 (G, LE, S, UPS); Attika, Mt. Parnes, Guiol 1504 (UPS); Attiki, Heldreich s. n. (G, S); Crete: Kissamos, Reverchon 211 (S); Mani Peninsula, Kit Tan & Vold 10684, 10688 (G).

Italy. Sicilia, Coll 201 (G, S), Pavillon s. n. Spencer s. n. (G).

Malta. Melhehc, Westra & Rooden 183 (G).

Spain. Granada, Domingos s. n. (G); Malaga, Reverchon 96 (S); Ronda, Strandhede *et al.* 1014 (S); Vijer de la Frontera, Casas 2948 (G).

Algeria. Ahras, Whiterhead s. n. (K); Birmandreis, Allarc s. n. (G); Bone, Vendrely s. n. (G); Cosquels, Clave 66 (G); Les haies, Bove s. n. (G, LE); Oran, Faure 4 (BM, G), Debeaux s. n. (S); Rhummel, Choulotte 101 (S).

Libya. Cirenaica, Pampanini 2641, Keith 255 (K), Anderberg 760, Boulous 1388 (S).

Morocco. Asni, Wilczek s. n. (G); Djebel Agadir, Jbrahim s. n. (LE); Melilla, Mauricia s. n. (BM); Mogador, Trothewy 91 (K); Tadhala, Trothewy 195A (K); Tanger, Pitard 253 (G); Tigunimin, Quer 154 (G), Wall 20 (S); Warrakech, Trothewy 98 (K).

Tunisia. Ain-Draham, Pitard 556 (G); Ichkeul, Fag 867 (K); Soliman, Cuenod s. n. (G).

A taxon with sepals inside blotched with maroon-purple (*Clematis cirrhosa* L. ssp. *balearica* (Rich.) Kuntze var. *purpurascens* Kuntze in Verh. Bot. ver. Brand. 26: 144. 1885. TYPE: Balearic Islands, no type specimen designated. — *C. cirrhosa* var. *purpurascens* Willk. Ill. Fl. Hispan. 2: 50, t 121. 1886. — *C. cirrhosa* var. *dautezi* Debeaux in Debeaux & Dautez, Synop. Fl. Gibrat. 13. 1889.), occurring in Mallorca, Gibralt and Algeria (Grey-Wilson 2000), may be a coloured form of var. *cirrhosa*. Till now, I have not seen any specimen of it.

21b Var. *semitriloba* (Lag.) Batt. in Batt. & Trab. Fl. Alger. 3. 1888; Rouy & Fouc. Fl. France 1: 5. 1893; Halacsy, Consp. Fl. Graec. 1: 1. 1901; Pamp. Prodr. Fl. Cirena. 202. 1930; Reching. Fl. Aegaea 184. 1943; M. Johnson, Klematis 378. 1997; Grey-Wils. Clematis 92. 2000. — *C. semitriloba* Lag. Gen. et Sp. Nov. 17. 1816; DC. Syst. 1: 163. 1818; et Prodr. 1: 9. 1824. — *Cheirosia semitriloba* (Lag.) Bercht. & Presl, Rostl. i Ranunculac. 11. 1823. — *Clematis cirrhosa* f. *semitriloba* (Lag.) Ball in J. Linn. Soc. Bot. 16: 303. 1877; Maire, Fl. Afr. Nord 11. 1964; Barcelo. Fl. Mallorca 2: 187. 1978. *C. cirrhosa* ssp. *semitriloba* (Lag.) Kuntze in Verh. Bot. Ver. Brand. 26: 144. 1885. TYPE: 'in Hispania meridionali', type specimen not seen.

Fig. 12: 11 ~ 12

C. polymorpha Viv. Fl. Cors. Sp. Nov. 9. 1824. TYPE: France. Corse, no type specimen designated.

C. cirrhosa β *triloba* Moris, Fl. Sardoia 1: 14. 1837; Mora, Fl. Fun. Penin. Iber. 6: 679. 1878; Arcan. Comp. Fl. Ital. 2. 1882. TYPE: no type specimen designated.

C. cirrhosa ssp. *atava* Kuntze var. *subtriloba* Kuntze in l. c. TYPE: Cyprus. Kotschy 37, 396 (syntypes, not seen).

Leaves simple, 3-lobed to 3-sect, at margin few-denticulate or entire, sometimes undivided or ternate. Cymes 1 ~ 2 with leaves arising from an axillary bud of old branch; involucre covering the pedicel and calyx base, broadly campanulate, 5 ~ 14 mm long, on top indistinctly 2-lobed. Pedicel 3 ~ 4 mm long. Anthers narrow-oblong. Fl. Oct. – Apr. of the next year.

SW Asia (Cyprus), S Europe (France, Greece, Italy, Portugal, Spain), N Africa (Algeria, Libya, Morocco, Tunisia). On coastal hills; up to 800 m.

Specimens examined. **France**. Corse, Bonifacio, Stefani s. n. (LE, US), Reverchon s. n. (US).

Greece. Crete, Segelberg 22359 (S).

Italy. Modena, Vaccari s. n. (G); Sardaigne, Pavillon s. n., Thomas s. n. (G); Sardinia, Vaccari 1052 (LE).

Spain. Balearic Islands; Soller, Aianor s. n., Farrer 102, Martin s. n. (G); Malaga, Reverchon 96 (S); without precise locality, Heutler s. n. (S).

21c Var. *balearica* (Rich.) Willk. in Willk. & Lange, Prodr. Fl. Hispan. 3: 952. 1880; Cout. Fl. Portug. 228. 1913; Pott. – Alap. Fl. Tunis. 1: 153. 1979; M. Johnson, Klematis 374. 1997; Grey-Wils. Clematis 91, fig. 58. 2000. — *C. balearica* Rich. in J. Physiq. (Fevr. 1779): 127, pl. 2. 1779; Lam. Encycl. 2: 43. 1806; DC. Syst. 1: 163. 1818; et Prodr. 1: 9. 1824; Ball in J. Linn. Soc. Bot. 16: 303. 1877; Willk. Ill. Fl. Hispan. 2: 52, t. 122. 1886. — *Atragene balearica* (Rich.) Pers. Synop. Pl. 2: 98. 1807. — *Cheiropsis balearica* (Rich.) Bercht. & Presl, Rostl. i Ranunculac. 11. 1823. — *Clematis cirrhosa* L. ssp. *balearica* (Rich.) Kuntze in Verh. Bot. Ver. Brand. 26: 144. 1885. — *C. cirrhosa* f. *balearica* (Rich.) Maire, Fl. Afr. Nord 11: 104. 1964; Barcelo, Fl. Mallorca 2: 187. 1978. TYPE: Spain. Minorca Island, A. Richard s. n. (holotype, not seen). Fig. 12: 5 ~ 6

C. calycina Ait. Hort. Kew. 2: 259. 1789; Sims in Curtis, Bot. Mag. 24: t. 959. 1806. TYPE: Spain. Minorca Island, no type specimen designated.

C. cirrhosa r *multifida* Moris, Fl. Sardoia 1: 14. 1837; Mora, Fl. Fun. Penin. Iber. 6: 679. 1878. TYPE: no type specimen designated.

C. cirrhosa var. *angustifolia* Loudon, Encycl. Trees & Shrubs 14. 1842. TYPE: no type specimen designated.

Leaves simple, usually 3-sect, or ternate, central segment or leaflet narrow-ovate in outline, 3-fid, central lobe lanceolate, at margin incised-dentate, lateral lobes small. Cymes 1 ~ 2 with leaves arising from an axillary bud of old branch; involucre usually covering the pedicel and calyx base, occasionally remote from them, broadly campanulate, 4 ~ 8 mm long, on top usually distinctly 2-lobed. Pedicel ca. 3 mm long. Anthers narrow-oblong. Fl. Oct. – Apr. of the next year.

S Europe (France, Portugal, Spain). On coastal hills; 100 ~ 500 m.

Specimens examined. **France**. Corse, Stephani 1937 (G).

Spain. Mallorca Island, Barcelo s. n., Belanger s. n., Bianor 1251, Boissier s. n., Gros 7390 (G), Lenander s. n., Schultze 19 (S), Vautier s. n. (G); Marratxi, Bianor 3616 (K).

21d Var. *pedicellata* DC. Syst. 1: 162. 1818; et Prodr. 1: 9. 1824; Loudon, Encycl. Trees

& Shrubs 14. 1842. — *C. pedicellata* (DC.) Sweet, Hort. Brit. 2. 1827; Lindl. in Edwards, Bot. Reg., n. ser., 10: t. 21. 1847. TYPE: Spain. 'Isl. Majorca', A. Richard s. n. (holotype, not seen). Fig. 12: 9 ~ 10

C. cirrhosa auct. non L.; Sims in Curtis, Bot. Mag. 27: t. 1070. 1807.

Leaves simple, undivided or 3-parted to 3-sect, or nearly ternate, at margin 1 ~ 2-denticulate or entire. Cymes singularly arising from leaf axils of hornotinous branch; involucre ca. 6 mm long, distinctly 2-lobed, its tube ca. 2.5 mm long and its lobes deltoid or ovate, 2.5 ~ 4 mm long. Pedicel 4 ~ 20 mm long. Anthers oblong, ca. 1.2 mm long.

Spain (Majorca Island).

I have seen only one specimen of this variety, deposited in S and lacking field notes. Upon this specimen the two figures (Fig. 12: 9 ~ 10) of this variety are based.

21e var. *barnadesii* Pau in Bol. Soc. Arag. Cien. Nat. 3: 10. 1904; Rignal in Anal. Inst. Bot. Cavan. 32(2): 465, fig. 1 ~ 8. 1975; M. Johnson, Klematis 375. 1997; Grey-Wils. Clematis 92. 2000. TYPE: Spain. Cartagena, 1901-10-25, Jimenez s. n. (holotype, not seen). Fig. 12: 3 ~ 4

Leaves simple, undivided, at margin densely and coarsely serrate. Cymes ca. 2 with ca. 6 leaves arising from a terminal bud of annotinous branch; involucre ca 15 mm long, manifestly 2-lobed, its tube ca. 6 mm long, its lobes narrow-triangular or narrow-ovate, 7 ~ 10 mm long. Pedicel ca. 16 mm long. Anthers narrow-oblong, 3 ~ 3.4 mm long. Fl. Oct. - Nov.

SW Spain (Cartena).

Specimens examined. **Spain**. Cartagena, 1902-11-06, ? Jimenez s. n. (S); same locality, 1905-11-06, Jimenez s. n. (G).

21f Var. *bibracteata* W. T. Wang, var. nov. Fig. 12: 7 ~ 8

A var. *cirrhosa* et varietatibus ceteris *C. cirrhosae* statim differt cymae bracteis duabus oppositis liberis.

Leaves simple, undivided, rarely above base 3-lobulate, at margin few-denticulate. Cyme 1 with 2 leaves together arising from an axillary bud of old branch; bracts 2, free, opposite, spreading, triangular, ca. 1.6 mm × 1 mm, abaxially appressed-puberulous. Pedicel ca. 2 mm long. Anthers narrow-oblong, 2.2 ~ 3 mm long. Fl. Mar.

Cyprus. Limassol, 1956-03-23, G. A. Mavromoustakis s. n. (holotype, US).

This new variety is distinguished from other varieties of *C. cirrhosa* by its free bracts. In other varieties, the two opposite bracts of the 1-flowered cyme are more or less connate into a tube-bearing involucre. With such a primitive character, var. *bibracteata* may be a relict primitive from of the subject. *Cirrhosae*.

22 合苞铁线莲 Fig. 11: 3 ~ 5

Clematis napaulensis DC. Syst. 1: 164. 1818; et Prodr. 1: 9. 1824; Hook. f. & Thoms. in Hook. f. Fl. Brit. Ind. 1: 2. 1872; Stapf in Curtis, Bot. Mag. 150; t. 9037. 1892; Pei in Sinensia 7: 475. 1936; Hand. - Mazz. in Acta Hort. Gotob. 13: 211. 1939; Mukerjee in Bull. Bot. Surv. Ind. 1 (1): 139. 1959; Gupta in Bull. Nat. Bot. Gard. Lucknow 54: pl. 14. 1961; Kapoor in l. c. 78: 4, 40. 1962 et. 124 (2): 77. 1966; Hara in Hara & Williams, Enum. Flow. Pl. Nepal 2: 15. 1979; M. C. Chang in Fl. Reip. Pop. Sin. 28: 214, pl. 70. 1980; C. Y. Wu, Ind. Fl. Yunnan. 1: 112. 1984; Grierson & Long, Fl. Bhutan 1 (2): 288. 1984; M. Y. Fang in Fl. Xizang. 2: 91. 1985; Y. K. Li in Fl. Guizhou 3: 64. 1986; L. Q. Li in Vasc.

Pl. Hengduan Mount. 1: 529. 1993; M. Johnson, Klematis 382. 1997; Gaur, Fl. Garhwal Himal. 69. 1999; Grey-Wils. Clematis 93, fig. 60. 2000; W. T. Wang in Fl. Yunnan. 11: 234. 2000. — *C. cirrhosa* L. ssp. *napaulensis* (DC.) Kuntze in Verh. Bot. Ver. Brand. 26: 143. 1885, sphalm. *nepalensis*. TYPE: Nepal. Buchanan s. n. (holotype, BM!).

C. cirrhosa ssp. *heterophylla* Kuntze in l. c. SYNTYPES: India. Kumaon, Strachey & Winterbottom 8 (GH!, K!, LE!, P!); Gagar Pass, Madden s. n. (K!).

C. forrestii W. W. Smith in Not. R. Bot. Gard. Edinb. 8: 183. 1914. SYNTYPES: China. Yunnan, Shweli-Salwin divide, 1912-1913, Forrest 9398, 9526 (E!, GH!, K!).

C. montana auct. non Buch.-Ham. ex DC.: D. Don, Prodr. Fl. Nepal. 192. 1825.

Woody vine. Branches terete or indistinctly 6-angulate, glabrous. Leaves ternate, seldom simple; leaflets herbaceous, narrow-ovate or lanceolate, 3 ~ 7.5 (~ 10) cm × 1.2 ~ 2.6 (~ 2.9) cm, at apex attenuate, at base broadly cuneate or rounded, at margin entire or below few-denticulate, on both surfaces glabrous or abaxially sparsely puberulous, basal veins nearly flat; petioles 3 ~ 7.5 cm long. Cymes 1 ~ 3 with several leaves together arising from an axillary bud of old branch, 1-flowered; peduncles 2 ~ 4 cm long, sparsely puberulous; involucre broadly campanulate, 4 ~ 7 mm long, on top indistinctly 2-lobed, outside sparsely puberulous. Flower 1.6 ~ 1.8 cm in diam.; pedicel 2 ~ 12 mm long, velutinous. Sepals 4, greenish-white, oblong, 1.6 ~ 2 cm × 0.6 ~ 0.85 cm, at apex slightly obtuse, inside glabrous, outside velutinous. Stamens 7.5 ~ 20 mm long, glabrous; anthers narrow-oblong, 3 ~ 3.8 mm long, at apex minutely apiculate. Ovaries pubescent; styles 14 ~ 20 mm long, densely villous. Achenes compressed, oblong-elliptic or narrow-obovate, 4 ~ 5 mm × 2 ~ 3.5 mm, pubescent, at margin rimmed; persistent styles 3.8 ~ 5 cm long, plumose. Fl. Nov. – Dec.

Bhutan. SW China (SW Guizhou, E Xizang, Yunnan). N India. N Myanmar. Nepal. Sikkim. In forests; 1500 ~ 2300 m.

Additional specimens examined. **Bhutan**. Chukka, Grierson & Long 3214 (GH, K); without precise locality, Griffith 1722 (G).

China. **Guizhou** (贵州): Ceheng (册亨), Y. Tsiang 9375 (K, S). **Xizang** (西藏): Tongmai (通迈), P. C. Tsoong 6216 (PE); Tsangpo George, F. Kingdon Ward 6342 (K). **Yunnan** (云南): Shweli-Salwin divide, Forrest 12116 (P); Jingdong (景东), M. K. Li 1784 (PE); Yangbi (漾濞), T. N. Liou 22565 (PE); without precise locality, Forrest 2205, 17816, 18464 (K).

India. Garhwal, Gamble 25750, Osmaston 879, 913 (GH); Massoorie, Mackinson s. n. (K, LE); Assam: Naga Hills, F. Kingdon Ward 7754 (K).

Myanmar. Myitkyina, Naw Mu Pa 17493 (K); Kangfang, F. Kingdon Ward 96 (GH).

Nepal. Sumore, Gouan 4680 (LE); without precise locality, J. D. Hooker 231, J. E. Smith s. n. (K).

Sikkim. Lachen, Cave s. n. (GH); Namrung, Cave s. n. (G, GH).

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